

TECHNICAL BASIS FOR TIER I OPERATING PERMIT

DATE: March 4, 2003

PERMIT WRITER: Dustin Holloway

PERMIT COORDINATOR: Dan Salgado

SUBJECT: **TECHNICAL MEMORANDUM FOR TIER I OPERATING PERMIT**
AIRS Facility No. 017-00003, Louisiana-Pacific Corp., Sandpoint
Final Amended Tier I Operating Permit

Permittee:	Louisiana-Pacific Corp., Sandpoint Facility
Permit Number:	T1-020126
AIRs Facility No.	017-00003
Air Quality Control Region:	63
AIRS Facility Classification:	A
Standard Industrial Classification:	2421
Zone:	11
UTM Coordinates:	533.3, 5347.5
Facility Mailing Address:	P.O. Box 249, Sandpoint, ID 83864
County:	Bonner
Facility Contact Name and Title:	Bill McKinley, Plant Manager
Contact Name Phone Number:	(208) 772-0505
Responsible Official Name and Title:	Bruce Mallory, Lumber General Manager
Exact plant Location:	808 N. Boyer Road, Sandpoint, Idaho
General Nature of Business & Kinds of Products:	Dimensional kiln-dried lumber production

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LIST OF ACRONYMS

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
cft	cubic feet
CAA	Clean Air Act
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EFB	electrified filter bed
EPA	U.S. Environmental Protection Agency
gal	gallon or gallons
gal/day	gallons per day
gr	grain (1 lb = 7,000 grains)
HAPs	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pounds per hour
lb/T	pounds per ton
mmHg	millimeter of mercury
MMbdf/yr	million board feet per year
MMBtu/hr	million British thermal units per hour
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO _x	oxides of nitrogen
NSPS	New Source Performance Standards
O ₂	oxygen
O ₃	ozone
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter of 10 micrometers or less
PSD	Prevention of Significant Deterioration
PTC	permit to construct
SIC	Standard Industrial Classification
SCC	Source Classification Code
scf	standard cubic feet
SIP	State Implementation Plan
SO ₂	sulfur dioxide
T/yr	tons per year
VOC	volatile organic compound
vp	vapor pressure

PUBLIC COMMENT/AFFECTED STATES/EPA REVIEW SUMMARY

A 30-day public comment period for Louisiana-Pacific Corp's draft Tier I operating permit was held in accordance with IDAPA 58.01.01.364 (*Rules for the Control of Air Pollution in Idaho*). Montana and Washington are affected states and were provided copies of the public comment package. No comments were received during the public comment period.

A proposed permit has been developed and forwarded to EPA Region 10 for their 45-day review. EPA provided no written objections to the permit.

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this Tier I operating permit in accordance with IDAPA 58.01.01.362, *Rules for the Control of Air Pollution in Idaho*.

The DEQ has reviewed the information provided by LP, regarding the operation of the facility located in Sandpoint, Idaho. This information was submitted based on the requirements for Tier I operating permits in accordance with IDAPA 58.01.01.300.

2. SUMMARY OF EVENTS

On May 16, 1995, DEQ received a Tier I operating permit application from LP for its facility located in Sandpoint. Tower Environmental Inc., the facility's consulting firm, prepared the application. The application was determined administratively complete on October 17, 1995. On April 15, 1999, DEQ received LP's revised Tier I operating permit application. The revised application was determined to be complete on June 1, 1999. A public comment period was held from May 10, 2002 through June 10, 2002. No comments were received during the public comment period.

On December 4, 2002 DEQ received an application for administrative amendments to the Tier I operating permit and technical memorandum. No technical changes were made to this memorandum. The changes made to the permit and this technical memorandum are listed below:

- Correction to facility-wide monitoring frequency
- Clarification of hog-fuel stack description
- Correction of truck bin baghouse O&M Manual requirements
- Correction of omitted Tier II permit condition for the kiln throughput limit
- Correction of scrap throughput limit from rolling average to rolling summation
- Addition of October 23, 2001 Tier II renewal to the tech memo history section
- Correction of baghouse description in the tech memo

3. BASIS OF THE ANALYSIS

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- Tier I operating permit application, received on May 16, 1995 and April 15, 1999; and supplemental application materials
- Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, Environmental Protection Agency
- Guidance developed by the EPA and DEQ
- Title V permits issued by other jurisdictions
- Documents and procedures developed in the Title V Pilot Operating Permit Program
- Tier II operating permit No. # 017-00003, issued on October 31, 2001

4. FACILITY DESCRIPTION

4.1 GENERAL PROCESS DESCRIPTION

The following process description is taken from LP's revised Tier I application (April 15, 1999).

4.1.1 Manufacturing Process Overview

Haul trucks deliver rough-cut green lumber to the Sandpoint facility where it is unloaded and temporarily stored. The first step in the manufacturing process involves drying the lumber in one of five indirect heated lumber drying kilns. Following drying, the lumber is reduced to desired width and thickness by a high-speed planer (Stetson Ross 20-knife planer). Waste material from the planing operation is pneumatically transferred through a high efficiency cyclone (planer cyclone) to overhead truck storage bins.

The planed lumber is then trimmed to marketable length. There are dust aspiration systems present onsite associated with the trim saws. Waste material from the end trim operation (aspirated and hogged material) is pneumatically transferred to the overhead truck storage bin through a series of cyclones. The lumber is then graded, stacked, and banded. A low volatile organic compound (VOC) water seal is applied to the end of the finished lumber. The lumber is then stored until it is shipped off-site by either rail or truck.

4.1.2 Combustion System

Steam necessary for the operation of the kilns is generated primarily by a hog fuel-fired Kipper and Sons boiler. This unit is a spreader-stoker style boiler rated for 75,000 pounds of steam per hour. Hog fuel is hauled onto the property from off-site sources. The fuel is unloaded and stored in a covered three-sided enclosure prior to use. The fuel is mechanically transferred from the enclosure to the boiler house using a series of covered conveyors. In the boiler house, the fuel is temporarily stored in small fuel bins prior to being fed into the firebox.

The mill also operates two natural gas fired boilers each rated at 16.7 million British thermal units per hour (MMBTU/hr) heat input as back-ups for the hog fuel boiler. These boilers are not fired concurrently with the hog fuel-fired boiler.

4.1.3 Waste Material Handling

All wood waste material generated by the finishing of the dried lumber is transferred to the overhead truck storage bin through a series of cyclones. The truck bin is currently enclosed on all sides.

Boiler ash generated by the operation of the wood waste boiler is stored in a covered three-sided enclosure prior to being transferred off-site by truck to a landfill.

4.1.4 Air Emission Sources And Emission Controls

- Dry Kiln Operation

The drying of green lumber results in the emission to the atmosphere of VOCs. Some of these organic compounds are emitted in a condensed state and by definition are considered a particulate.

- Planer Operation

The planing operation generates wood waste material that is transferred to the planer (truck bin) cyclone. Planer shavings are collected and dropped into the overhead truck bin. The air/fines mixture not collected is filtered by the truck bin baghouse prior to being emitted to the atmosphere. The truck bin baghouse is associated with a closed loop high efficiency cyclone that transfers material filtered by the baghouse back to the overhead truck bin.

4.1.5 End Trim Operation

A hog is used to reduce trim ends in size. Dust aspiration systems on the trim saws capture wood dust. The hogged material and the wood dust are transferred to the planer (truck bin) cyclone through the transfer cyclone. This cyclone processes a low volume of material. The transfer cyclone vents directly

to atmosphere. The duct from the transfer cyclone ties into the duct extending from the planer to the planer cyclone. Therefore, hogged trim end and trim saw waste materials are also routed through the planer cyclone for collection in the truck bin.

4.1.6 Truck Bin Operation

There are two emission-generating mechanisms associated with the operation of the truck bin. The near continuous loading of wood waste material into the bin results in near continuous emissions of low levels of particulate matter from breather vents on the sides of the truck bin. In addition, the dump loading of wood waste material from the overhead truck bin into the empty outbound truck results in a small amount (due to enclosure) of ground level fugitive particulate emissions.

4.1.7 Hog Fuel Boiler Operation

Emissions resulting from the combustion of hog fuel in the boiler are routed to a high efficiency multiclone. Ash and partially combusted wood fiber is separated by the multiclone and is reintroduced into the boiler firebox. After the multiclone, the uncollected fine dust and smoke particles are cleaned in an electrified filter bed fine (EFB) dust collector. In this system, the fine dust particles are given an electrostatic charge in a corona ionizer and are then deposited onto the surface of electrically polarized gravel. The spent pea gravel is removed from the filtration region of the EFB and is cleaned externally in a pneumatic conveyor. Dust removed from the pea gravel is filtered in a small bag filter (EFB media baghouse).

4.1.8 Ancillary Operations

Low levels of emissions are generated as a result of combustion of natural gas in the 16.7 MMBTU/hr boilers. These emissions pass to the atmosphere without abatement.

Volatile organic compounds are emitted to the atmosphere as a fugitive emission from the evaporation of volatile contaminants contained in the water-based coating used as an end seal.

Vehicular traffic on the property generates additional fugitive dust emissions. Street sweepers are used to reduce the level of these emissions. All roads accessed by vehicles are paved.

4.2 FACILITY CLASSIFICATION

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because it emits or has the potential to emit a regulated air pollutant(s) in amounts greater than or equal to 100 T/yr. The facility is an existing PSD major facility as defined by 40 CRF 52.21 because it emits or has the potential to emit a regulated air pollutant(s) in amounts greater than or equal to 250 T/yr. The facility SIC code is 2421 and the AIRS facility classification is A.

4.3 AREA CLASSIFICATION

The facility is located in Sandpoint, Idaho which is located in Bonner County. Bonner County is located in AQCR 63 and in Universal Transverse Mercator Zone 11. Sandpoint is classified as nonattainment for PM₁₀ and attainment or unclassifiable for all other federal and state criteria air pollutants. There are no Class I areas within 10 km of the facility.

4.4 PERMITTING HISTORY

December 21, 1988	DEQ issued a consent order for LP's hogged-fuel boiler installation and operation.
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February 27, 1989	DEQ issued a permit to construct (PTC) for the Kipper and Son's boiler, and an operating permit for LP's facility in Sandpoint.
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August 17, 1989 DEQ entered into a settlement agreement to amend the operating permit and PTC; both issued February 27, 1989.

June 14, 1991 DEQ received a letter requesting to change a permit condition in the operating permit that was part of the February 27, 1989 Settlement Agreement.

July 7, 1995 DEQ issued Tier II Operating Permit No. 017-00003.

October 23, 2001 DEQ issued Tier II Operating Permit No. 017-00003, which supersedes the operating permit issued July 7, 1995.

October 31, 2001 DEQ issued Tier II Operating Permit No. 017-00003 to correct minor administrative details

4.5 EMISSIONS DESCRIPTION

Additional emissions description and estimations can be found in both Appendix C of this memorandum and LP's permit application.

Per the information in the application and limits set in the Tier II operating permit, October 31, 2001, the facility's potential to emit is listed in Table 4.5.1:

Table 4.5.1 CRITERIA POLLUTANTS
Potential to Emit - Criteria Pollutants (T/yr)

	Hog-Fuel Fired Boiler	EFB Media Bag- House	Truck Bin Bag- House	Natural Gas- fired Boiler #1	Natural Gas- Fired Boiler #2	Dry Kilns	Transfer Cyclone	Truck Loadout Fugitives	Road Fugitive Emissions	Total (not including fugitive emissions)
PM	30.4	1	5.43	1	1	22.5	11.26	2.72	11.53	72.59
PM ₁₀	30.4	1	5.4	1	1	22.5	4.5	2.2	2.25	65.8
SO ₂	6.2			0.044	0.044					6.288
CO	394.2			2.63	2.63					399.46
NO _x	56.4			10.5	10.5					77.4
VOC	28.2			0.18	0.18	160.5				189.06

The potential to emit hazardous air pollutants and other pollutants is listed in Table 4.5.2.

Table 4.5.2 LP SANDPOINT, HAPS, PER 1999 TIER I APPLICATION

T/yr	Hog-Fuel Fired Boiler
Lead	7.00E-04
Acrolein	3.50E-04
Arsenic	2.10E-02
Benzene	1.20E+00
Cadmium	4.80E-02
Chromium	4.10E-02
Cobalt	1.10E-02
Formaldehyde	2.90E+00
Manganese	4.40E+00
Mercury	1.90E-03
Naphthalene	5.30E-01
Nickel	5.30E-01
Phenol	1.10E-02
Selenium	1.60E-03
2,3,7,8-tetrachlorodibenzo-p-dioxin	4.40E-09
Total*	9.70E+00

*Negligible HAP emissions from natural gas combustion

5. REGULATORY ANALYSIS

5.1 FACILITY-WIDE APPLICABLE REQUIREMENTS

5.1.1 Rules for the Control of Fugitive Dust - IDAPA 58.01.01.650-651

5.1.1.1 Requirement

Permit Condition 1.1 states that all reasonable precautions shall be taken to prevent particulate matter from becoming airborne in accordance with IDAPA 58.01.01.650-651.

5.1.1.2 Compliance Demonstration

Permit Condition 1.2 states that the permittee is required to monitor and maintain records of the frequency and the methods used by the facility to reasonably control fugitive particulate emissions. IDAPA 58.01.01.651 gives some examples of ways to reasonably control fugitive emissions which include using water or chemicals, applying dust suppressants, using control equipment, covering trucks, paving roads or parking areas, and removing materials from streets.

Permit Condition 1.3 requires that the permittee maintain a record of all fugitive dust complaints received. In addition, the permittee is required to take appropriate corrective action as expeditiously as practicable after a valid complaint is received. The permittee is also required to maintain records that include the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

To ensure that the methods being used by the permittee to reasonably control fugitive emissions whether or not a complaint is received, Permit Condition 1.4 requires that the permittee conduct periodic inspections of the facility. The permittee is required to inspect potential sources of fugitive emissions during daylight hours and under normal operating conditions. If the permittee determines that the fugitive emissions are not being reasonably controlled, the permittee shall take corrective

action as expeditiously as practicable. The permittee is also required to maintain records of the results of each fugitive emission inspection.

Permit Conditions 1.3 and 1.4 require the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid complaint or determining that fugitive emissions are not being reasonably controlled meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

The fugitive sources from this facility are: ash handling, end sealing operation, truck bin loadout, and paved roads.

5.1.2 Control of Odors - IDAPA 58.01.01.775-776

5.1.2.1 Requirement

Permit Condition 1.5 and IDAPA 58.01.01.776 both state that: *"No person shall allow, suffer, cause or permit the emission of odorous gases, liquids or solids to the atmosphere in such quantities as to cause air pollution."* This condition is currently considered federally enforceable until such time it is removed from the State Implementation Plan (SIP), at which time it will be a state-only enforceable requirement.

5.1.2.2 Compliance Demonstration

Permit Condition 1.6 requires the permittee to maintain records of all odor complaints received. If the complaint has merit, the permittee is required to take appropriate corrective action as expeditiously as practicable. The records are required to contain the date that each complaint was received and a description of the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Permit Condition 1.6 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of receiving a valid odor complaint meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.3 Visible Emissions - IDAPA 58.01.01.625

5.1.3.1 Requirement

IDAPA 58.01.01.625 and Permit Condition 1.7 state: *"No person shall discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined."* This provision does not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason(s) for the failure of the emission to comply with the requirements of this rule.

5.1.3.2 Compliance Demonstration

See Permit Condition 1.8.

It should be noted that if a specific emission unit has a specific compliance demonstration method for visible emissions that differs from Permit Condition 1.8, then the specific compliance demonstration method overrides the requirement of Permit Condition 1.8. Permit Condition 1.8 is intended for small sources that would generally not have any visible emissions.

Permit Condition 1.8 requires the permittee to take corrective action as expeditiously as practicable. In general, DEQ believes that taking corrective action within 24 hours of discovering visible emissions meets the intent of this requirement. However, it is understood that, depending on the circumstances, immediate action or a longer time period may be necessary.

5.1.4 Excess Emissions - IDAPA58.01.01.130-136

5.1.4.1 Requirement

Permit Condition 1.9 requires that the permittee comply with the requirements of IDAPA 58.01.01.130-136 for startup, shutdown, scheduled maintenance, safety measures, upset, and breakdowns. This section is fairly self-explanatory and no additional detail is necessary in this technical analysis. However, it should be noted that subsections 133.02, 133.03, 134.04, and 134.05 are not specifically included in the permit as applicable requirements. These provisions of the Rules only apply if the permittee anticipates requesting consideration under subsection 131.02 of the Rules to allow DEQ to determine if an enforcement action to impose penalties is warranted. Section 131.01 states "...The owner or operator of a facility or emissions unit generating excess emissions shall comply with Sections 131, 132, 133.01, 134.01, 134.02, 134.03, 135, and 136, as applicable. If the owner or operator anticipates requesting consideration under Subsection 131.02, then the owner or operator shall also comply with the applicable provisions of Subsections 133.02, 133.03, 134.04, and 134.05." Failure to prepare or file procedures pursuant to Sections 133.02 and 134.04 is not a violation of the Rules in and of itself, as stated in subsections 133.03.a and 134.06.b. Therefore, since the permittee has the option to follow the procedures in Subsections 133.02, 133.03, 134.04, and 134.05; and is not compelled to, the subsections are not considered applicable requirements for the purpose of this permit and are not included as such.

5.1.4.2 Compliance Demonstration

The compliance demonstration is contained within the text of Permit Condition 1.9. No further clarification is necessary here.

The regulations governing excess emissions are currently state-only enforceable applicable requirements. IDAPA 58.01.01 subsections 131-136 will become federally enforceable upon approval by the EPA as part of the SIP.

5.1.5 Open Burning

See Permit Condition 1.16.

5.1.6 Renovation/Demolition

See Permit Condition 1.17.

5.1.7 Chemical Accident Prevention Provisions

Refer to Permit Condition 1.18. Any facility that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, must comply with the requirements of the Chemical Accident Prevention Provisions at 40 CFR 68 no later than the latest of the following dates:

Three years after the date on which a regulated substance present above a threshold quantity is first listed under 40 CFR 68.130.

The date on which a regulated substance is first present above a threshold quantity in a process.

This facility is not currently subject to the requirements of 40 CFR 68. However, should the facility ever become subject to the requirements of 40 CFR 68, then it must comply with the provisions contained in 40 CFR 68 by the time listed above.

5.1.8 Fuel-burning Equipment

See discussion under Sections 5.2 and 5.3 of this technical memorandum.

5.1.9 Fuel-Sulfur Content

Refer to Permit Condition 1.15 and IDAPA 58.01.01.676-677.

5.1.10 New Source Performance Standards (NSPS)

The facility was not subject to 40 CFR 60, Subpart Db at the time the 1999 application was determined complete. The EPA's non-applicability determination can be found in Appendix A of this memorandum.

5.1.11 Compliance Testing

Permit Condition 1.10 outlines the DEQ-approved method(s) by which the permittee should perform compliance testing. This condition also contains reporting requirements for compliance tests. Refer to Permit Condition 1.10 and IDAPA 58.01.01.157.

5.1.12 Test Methods

Permit Condition 1.11 lists test methods to be used for compliance testing.

5.1.13 Reports and Certifications

Refer to Permit Condition 1.12 and IDAPA 58.01.01.322.07.

5.1.14 Monitoring and Recordkeeping

Refer to Permit Condition 1.13 and IDAPA 58.01.01.322.08.

EMISSIONS UNIT - KIPPER AND SONS HOG FUEL BOILER AND EFB GRAVEL CLEANING SYSTEM

5.2.1 Emissions Unit Description

5.2.1.1 Process Description

The primary purpose of the hog fuel boiler is to produce steam heat to dry green lumber in the drying kilns. Green lumber is derived from off-site sources. Hog fuel for the wood debris boiler consists of shavings and bark and is primarily from off-site sources.

Wood debris generated from other wood products industries are delivered by haul truck and unloaded into a truck dump. The primary method of transferring this material from the truck dump to the fuel storage house is by a conveyor belt. Occasionally, a front-end loader is used to haul the wood debris from the truck dump to the fuel storage house. The fuel storage house is a three-sided roofed structure. Within the fuel storage house, a hydraulic reclaimer feeds hogged fuel by covered conveyor belt to the boiler-metering bin. The Kipper and Sons hog fuel boiler has a design capacity of 75,000 pounds of steam per hour and/or operates at 125 MMBtu/hr gross heat input, as agreed to in the 1991 settlement agreement between DEQ and LP-Sandpoint. This boiler operates nearly continuously in order to supply the kilns with process steam to drive off the excess moisture in the green lumber.

Refer also to "Combustion System" under Section 4.1.2 of this memorandum.

5.2.1.2 Control Description

Emissions of PM from the boiler are controlled by a multiclone followed by an EFB. Emissions from the boiler are vented through the EFB stack. Emissions from the EFB pneumatic gravel cleaning system are controlled by a media baghouse vented through the media baghouse vent.

The 1995 Tier II operating permit conditional control measure operating requirement redirecting the EFB baghouse vent from a horizontal to a vertical position was completed by LP-Sandpoint on July 11, 1995.

Equipment Specifications

Kipper and Sons Hog Fuel Boiler:

- Design heat input capacity is 125 MMBtu/hr, or 75,000 pounds of steam per hour
- Year manufactured: 1977
- Serial number: 1018
- Boiler is vented to the EFB stack

Electrified Filter Bed:

- EFB configuration: electrified filter bed using gravel filter as collection electrodes within two 36,000 acfm louvered conical hoppers
- Performance design characteristics: rated capacity: 72,000 acfm
- Serial number: EFB FDC 75

EFB Cleaning System Baghouse:

- Baghouse configuration: aeropulse, 72 bags, each 4 inches in diameter and 10 feet long
- Performance design characteristics: operating pressure drop of approximately 5 inches water gauge
- Stack parameters: stack height is a minimum of 25 feet; stack area is 2.7 square feet

The stack parameters for the boiler are as follows:

- Stack exit height from ground level: 80 feet
- Sack exit diameter: 4.66 feet
- Stack exit gas flow rate, typical: 54,940 acfm
- Stack exit temperature, typical: 312.3°F

Removal of Obsolete Permit Conditions

Permit Condition 2.14 to 2.17 in the existing Tier II Operating Permit 017-00003 issued on October 31, 2001 was fulfilled on December 19, 2001. Therefore, these requirements are not incorporated into the Title V permit.

5.2.2 Permit Condition - Grain-Loading Standard - [IDAPA 58.01.01.676]

5.2.2.1 Applicability

Refer to Permit Condition 2.1

5.2.2.2 Monitoring, Recordkeeping, and Reporting

Refer to Permit Conditions 2.7. The facility conducted source tests on October 24, 2001, which was approved by DEQ on December 19, 2001. The maximum steaming rate of 69,348 lb/hr was established based on this most recent source test.

Maintenance to and operation of the EFB are required. Refer to Permit Conditions 2.15, 2.16, and 2.17.

Recordkeeping and reporting are required. Refer to Permit Conditions 2.5 to 2.12, facility-wide permit conditions, and general provisions.

5.2.3 Permit Condition - Emissions Limits for Hog Fuel Boiler - [Tier II Operating Permit No. 017-00003, 10/31/01]

5.2.3.1 Applicability

Refer to Permit Condition 2.1

5.2.3.2 Monitoring, Recordkeeping, and Reporting

Refer to Permit Condition 2.5. The facility conducted source tests on October 24, 2001, which was approved by DEQ on December 19, 2001. The maximum steaming rate of 69,348 lb/hr was established based on this most recent source test.

For PM/PM₁₀, maintenance to and operation of the EFB are required. Refer to Permit Conditions 2.15, 2.16, and 2.17.

Recordkeeping and reporting are required. Refer to Permit Conditions 2.5 to 2.12, facility-wide permit conditions, and general provisions.

5.2.4 Permit Condition - Opacity for Hog Fuel Boiler - [Tier II operating permit 017-00003, 10/31/01, IDAPA 58.01.01.625]

5.2.4.1 Applicability

Refer to Permit Condition 2.2

5.2.4.2 Monitoring, Recordkeeping, and Reporting

A continuous opacity monitoring system is required. Refer to Permit Condition 2.13.

Recordkeeping and reporting are required. Refer to Permit Conditions 2.14 and 2.16, and facility-wide permit conditions and general provisions.

5.2.5 Permit Condition - Emission Limits for EFB Baghouse - [Tier II Operating Permit No. 017-00003, 10/31/01]

5.2.5.1 Applicability

Refer to Permit Condition 2.3.

5.2.5.2 Monitoring, Recordkeeping, and Reporting

A steaming rate limit was established. Refer to Section 5.2.2.2 of this technical memorandum. Also refer to Permit Condition 2.7. Maintenance to EFB media baghouse is required. Monitoring of pressure drop of the baghouse is required. Refer to Permit Conditions 2.10 and 2.11.

Recordkeeping and reporting are required. Refer to Permit Conditions 2.10, 2.15, 2.16, and 2.17, facility-wide permit conditions, and general provisions.

5.2.6 Permit Condition - Opacity for EFB Baghouse - [Tier II Operating Permit 017-00003, 10-31-01]

5.2.6.1 Applicability

Refer to Permit Condition 2.4.

5.2.6.2 Monitoring, Recordkeeping, and Reporting

Maintenance to the EFB media baghouse is required. Monitoring of pressure drop of the baghouse is required. Periodic visible emissions evaluations are required. Recordkeeping and reporting are required. Refer to Permit Conditions 1.6, 2.5 to 2.12, and 2.15, 2.16, and 2.17, facility-wide permit conditions, and general provisions.

5.3 Emissions Unit - Natural Gas-fired Boiler No. 1 and No. 2

5.3.1 Emissions Unit Description

5.3.1.1 Process Description

The two natural gas boilers are back-up boilers for the hog fuel boiler. These boilers are not fired concurrently with the hog fuel fired boiler.

Manufacturer:

- Cleaver Brooks 400 Hp (xz); model number: CR760-400 (xz).
- Rated capacity: 14,000 lbs/steam/hr (each) or 16.7 MMBtu/hr (each).

5.3.1.2 Controls

Emissions from the two natural gas-fired boilers are uncontrolled and each vent through a separate stack.

5.3.2 Permit Requirement – Grain-Loading Standard - [IDAPA 58.01.01.677, 5-1-94]

5.3.2.1 Applicability

Refer to Permit Condition 3.1.

5.3.2.2 Monitoring, Recordkeeping, and Reporting

Natural gas is considered a "clean" fuel with respect to PM emissions. The preamble to 40 CFR 60, Subpart Dc regulations at 54 FR 24792, states: *"The uncontrolled PM emissions from the combustion of natural gas in small steam generating units are very low. Uncontrolled PM emission levels of less than 9 ng/J (10⁻⁹ gram per Joule) (0.02 lb/million Btu) heat input are typical of natural gas-fired steam generating units. Because of these low uncontrolled PM emission levels, the application of any type of PM control technology to small natural gas-fired steam generating units would impose significant costs for no benefit. Consequently, the use of any conventional PM control technology to reduce PM emissions from small natural gas-fired steam generating units is considered unreasonable and no further consideration has been given to the development of standards to limit PM emissions from these units."* DEQ does not foresee that normal operations of natural gas combustion will exceed the grain-loading standard. Visible emissions inspections as required by Permit Condition 1.6, boiler parameter monitoring and recordkeeping as required by Permit Condition 3.7, and the operating requirement under Permit Condition 3.3, 3.4, and 3.5 are sufficient to ensure the permittee is in compliance with Permit Condition 3.1.

5.3.3 Permit Requirement – Opacity - [IDAPA 58.01.01.625, 7-5-00]

5.3.3.1 Applicability

Refer to Permit Condition 3.2

5.3.3.2 Monitoring, Recordkeeping, and Reporting

As discussed under Section 5.3.2.2 of this memorandum, natural gas is considered a “clean” fuel with respect to PM emissions. DEQ does not foresee that normal operations of natural gas combustion will exceed the opacity standard. Visible emissions inspections as required by Permit Condition 1.6 and boiler parameter monitoring and recordkeeping as required by Permit Condition 3.7 are sufficient to ensure the permittee is in compliance with Permit Condition 3.2.

5.4 EMISSIONS UNIT - PNEUMATIC CONVEYANCE SYSTEM

5.4.1 Emissions Unit Description

5.4.1.1 Process Description

The cyclones and related pneumatic equipment are used as a means of process control. The byproducts gathered from operation of this facility have low moisture content. These byproducts are collected and transferred pneumatically to the truck bin (byproduct loadout bin) where it is transferred to haul trucks.

Dried lumber is removed from the kilns and planed to desired dimensions. Planer shavings are collected from the planing operation and are transported pneumatically to the planer cyclone where the shavings drop out into the truck bin. The planer cyclone is a point source of PM₁₀ emissions.

From the planer, the lumber is conveyed to the end trimmer area where the lumber is sawed to the desired length. Sawdust and trim ends are byproducts. Trim ends that are too small to be used at other offsite facilities are hogged and, like the sawdust, are pneumatically conveyed to the transfer cyclone. The transfer cyclone conveys this material to the planer cyclone where it joins the planer shavings stream for eventual deposition into the truck bin. The end trim and transfer cyclones are point sources of PM₁₀ emissions. The planer cyclone's exhaust vent emissions are routed directly to the truck bin baghouse, which is a source of PM₁₀ emissions.

The wood byproduct captured by the truck bin baghouse is shaken out and transferred to the truck bin via the closed-loop (does not exhaust to the atmosphere) truck bin cyclone. The cut-shop hog unit equipment was removed in 1993.

5.4.1.2 Control Description

Particulate matter with an aerodynamic diameter of 10 micrometers or less is controlled by the transfer cyclone and the truck bin baghouse. Point source emissions occur at the exhaust vent for each of the above control devices. The truck bin vent is a source of uncontrolled PM₁₀ fugitive emissions.

The 1995 Tier II operating permit conditional control measure operating requirement redirecting the truck bin baghouse vent from a horizontal to a vertical position was completed by LP-Sandpoint on February 21, 1996.

The 1995 Tier II operating permit conditional control measure operating requirement to remove the end trim cyclone was completed by LP-Sandpoint on May 15, 1996. The cyclone was completely disconnected and removed from operations.

Equipment Specifications

Transfer Cyclone:

- Manufacturer: information not available
- Performance design characteristics: information not available
- Stack parameters: vent height is a minimum of 45 feet with a minimum vent diameter of 30 inches

Truck Bin Baghouse:

- Manufacturer: U.S. Metal Works, Inc.
- Performance design characteristics: information not available
- Manufacturer design specifications: 234 six-inch diameter bags

5.4.2 Permit Requirement – Process Weight Rate - [IDAPA 58.01.01.701, 702]

5.4.2.1 Applicability

Refer to Permit Conditions 4.1 and 4.2.

5.4.2.2 Monitoring, Recordkeeping, and Reporting

Compliance with IDAPA 58.01.01.701 and 702 is assumed so long as the truck bin baghouse is operated in accordance with Permit Conditions 4.3, 4.4, 5.6, and 5.7.

Compliance with IDAPA 58.01.01.702 for the transfer cyclone and truck bin vent is assumed so long as the lumber drying throughput limit is not exceeded (Permit Condition 5.6). Calculations that demonstrate compliance with process weight rate can be found in Appendix B of this memorandum.

Recordkeeping and reporting are required. Refer to Permit Conditions 4.7, 4.8, 4.10 and 5.7, Facility-wide Permit Conditions, and the General Provisions.

5.4.3 Permit Requirement – Emissions Limits – [Tier II Operating Permit 017-00003, 10/31/01]

5.4.3.1 Applicability

Refer to Permit Condition 4.5.

5.4.3.2 Monitoring, Recordkeeping, and Reporting

The limits will be met as long as the permittee complies with Permit Conditions 4.6 to 4.10.

5.4.4 Permit Requirement – Opacity – [Tier II Operating Permit No. 017-00003, 10/31/01; IDAPA 58.01.01.625]

5.4.4.1 Applicability

Refer to Permit Condition 4.3.

5.4.4.2 Monitoring, Recordkeeping, and Reporting

The permittee is required to comply with Permit Conditions 1.6 and 4.6 to 4.10.

5.5 EMISSIONS UNIT - DRYING KILNS

5.5.1 EMISSIONS UNIT DESCRIPTION

Green lumber is placed within the dry kilns and is dried using process steam from either the hog fuel boiler or the natural gas boilers. Volatile organic compound and condensable PM₁₀ emissions are released through vents during the drying process.

5.5.2 Permit Requirement – Process Weight Rate - [IDAPA 58.01.01.701, 702]

5.5.2.1 Applicability

Refer to Permit Conditions 5.1 and 5.2.

5.5.2.2 Monitoring, Recordkeeping, and Reporting

Compliance with IDAPA 58.01.01.702 is assumed so long as the lumber drying throughput is not exceeded (Permit Condition 5.6). Calculations that demonstrate compliance with process weight rate can be found in Appendix B of this memorandum.

5.5.3 Permit Requirement – Emission Limits - [Tier II Operating Permit No. 017-00003, 10/31/01]

5.5.3.1 Applicability

Refer to Permit Condition 5.5.

5.5.3.2 Monitoring, Recordkeeping, and Reporting

A throughput limit was established in the Tier II operating permit, 10/31/01, to ensure compliance. Refer to Permit Conditions 5.6 and 5.7. Compliance of the hourly limit is demonstrated by the following calculation:

$$X \text{ lb/hr} = Y \text{ (T/yr)} \times (2,000 \text{ lb/T}) \times (1 \text{ yr}/8,760 \text{ hr}).$$

5.5.4 Permit Requirement – Opacity - [IDAPA 58.01.01.625]

5.5.4.1 Applicability

Refer to Permit Condition 5.3

5.5.4.2 Monitoring, Recordkeeping, and Reporting

Monitoring and recordkeeping are required. Refer to Permit Condition 1.6, Facility-wide Permit Conditions, and the General Provisions.

5.6 EMISSIONS UNIT - FUGITIVE EMISSION SOURCES

5.6.1 Emissions Unit Description

5.6.1.1 Ash Handling Process Description

Fugitive emissions are controlled by application of water to the ash prior to transfer to the three-sided ash storage structure.

5.6.1.2 End-Sealing Operation Process Description

Finished lumber is stacked and banded into shipping bundles and the ends of the lumber may be seal-coated with spray paint in a partially enclosed structure. Fugitive PM₁₀ and VOC emissions are created during the spraying process.

5.6.1.3 Truck Bin Loadout Process Description

The truck bin loadout is a material transfer station where wood byproducts (planer shavings, sawdust, trim ends, etc.) are loaded onto haul trucks for shipping. The truck bin loadout operation is a source of fugitive PM₁₀ emissions. The truck bin loadout is equipped with a four-sided enclosure to control fugitive emissions during truck loading.

5.6.1.4 Paved Roads

Vehicle traffic at the plant site includes lumber and wood debris trucks, front-end loaders, and other vehicles. Vehicle traffic on the plant site occurs on paved roads for the primary control of dust. The unpaved area of the plant is the bone yard, which receives little to no vehicle traffic. Table 6.1 contains a summary of the requirements that apply to the sources regulated in this section of the Tier I operating permit. Specific permit requirements are listed below:

5.6.2 Permit Requirement – Process Weight Rate - [IDAPA 58.01.01.701, 702]

5.6.2.1 Applicability

Process weight rate applies to truck bin loadout operation. Refer to Permit Conditions 6.1 and 6.2.

5.6.2.2 Monitoring, Recordkeeping, and Reporting

Compliance with Permit Conditions 6.3, 6.4, 6.6, 6.7, and 6.14 is assumed to demonstrate compliance with process weight rate emissions limitations for truck bin loadout. Calculations to demonstrate compliance with process weight rate can be found in Appendix B of this memorandum. Recordkeeping and reporting are required under the Facility-wide Permit Conditions and the General Provisions.

5.6.3 Permit Requirement – Emissions Limits - [Tier II Operating Permit No. 017-00003, 10/31/01]

5.6.3.1 Applicability

Refer to Permit Condition 6.5.

5.6.3.2 Monitoring, Recordkeeping, and Reporting

Permit Conditions 2.7, 6.6, and 6.11 ensure that emissions from wood boiler ash handling meet the limits. Permit Condition 2.7 limited the boiler's steaming rate, and as a result, it limits the amount of ash to be handled. Permit Conditions 6.6, 6.7, and 6.8 ensure that emissions from truck bin loadout operation meet the limits. Permit Condition 6.9 and 6.10 ensure that emissions from end coating operation meet the limits. Permit Conditions 6.12, 6.13, and 6.14 ensure that emissions from vehicle traffic meet the limits. For clarification, operation of the sweeper/water truck for the control of paved road emissions shall be as deemed necessary by visual examination of fugitive emissions from the paved roads. The permittee is also required to comply with recordkeeping and reporting requirements under facility-wide permit conditions and general provisions.

5.6.4 Permit Requirement – Opacity - [Tier II Operating Permit No. 017-00003, 10/31/01]

5.6.4.1 Applicability

Refer to Permit Condition 6.3. The requirement is taken from Tier II Operating Permit No. 017-00003, 10/31/01.

5.6.4.2 Monitoring, Recordkeeping, and Reporting

The permittee is required to comply with Permit Condition 1.6. The permittee is also required to comply with recordkeeping and reporting requirements under the Facility-wide Permit Conditions and the General Provisions.

6. INSIGNIFICANT ACTIVITIES

Listed below are the insignificant activities described by the source in accordance with IDAPA 58.01.01.317:

Table 6.1 INSIGNIFICANT ACTIVITIES

Description	Insignificant Activities IDAPA Citation Section 17.01.b.i
VOC storage tank < 10,000 gal, with lid or closure; vapor pressure < 80 mmHg at 21 degrees Celsius; and gasoline storage tanks with lid or closure < 10,000 gal	317.01.b.i.3
Butane, propane, or liquefied petroleum gas storage tank < 40,000 gal	317.01.b.i.4
Operation, loading and unloading of storage tanks and storage vessels, with lids or other appropriate closure less than 260 gal capacity, 35 cft heated only to the minimum extent to avoid solidification if necessary.	317.01.b.i.1
Operation, loading and unloading of storage tanks not greater than 1,100 gal capacity, with lids or other appropriate closure, not for use with hazardous air pollutants, maximum (max.) vapor pressure (vp) 550 mmHg.	317.01.b.i.2
Combustion source, not less than 5.0 MMBtu/hr, exclusively using natural gas, butane, propane, and/or LPG.	317.01.b.i.5
Combustion source, of less than 1.0 MMBtu/hr if using kerosene, No. 1 or No. 2 fuel oil.	317.01.b.i.7
Combustion source, not greater than 0.5 MMBtu/hr, if burning waste wood, wood waste or waste paper.	317.01.b.i.8
Welding using not more than 1 T/day of welding rod.	317.01.b.i.9
Printing and silk-screening, using less than 2 gal/day of any combination of the following: inks, coatings, adhesives, fountain solutions, thinners, retarders, or nonaqueous cleaning solutions.	317.01.b.i.12
Combustion turbines, of less than 500 hp.	317.01.b.i.14
Surface coating, using less than 2 gal/day	317.01.b.i.17
Space heaters and hot water heaters using natural gas, propane or kerosene and generating less than 5.0 MMBtu/hr.	317.01.b.i.18
Dip coating operations, using material with less than 1% VOC	317.01.b.i.19
Surface coating, containing less than 1% by weight volatile organic compounds	317.01.b.i.25
An emission unit or activity with emissions less than or equal to 10% of the levels contained in Section 006 of the definition of significant and no more than one ton per year of any hazardous air pollutant.	317.01.b.i.30

There are no additional monitoring, recordkeeping, or reporting requirements for insignificant emission units or activities beyond those required in the Facility-wide Permit Conditions.

7. ALTERNATIVE OPERATING SCENARIOS

No alternative operating scenarios are required.

8. TRADING SCENARIOS

No trading scenarios are required.

9. COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION

9.1 COMPLIANCE PLAN

LP-Sandpoint certified compliance with all applicable requirements. No compliance plan was submitted.

9.2 COMPLIANCE CERTIFICATION

LP-Sandpoint will be required to periodically certify compliance in accordance with General Permit Provision 21.

10. ACID RAIN PERMIT

This facility is not subject to acid rain permit requirements at the time of writing this memorandum.

11. AIRS DATABASE

AIRS/AFS FACILITY-WIDE CLASSIFICATION DATA ENTRY FORM

Air Program Description	SIP	PSD	NESHAP	NSPS	MACT	TITLE	AREA CLASSIFICATION
							A – Attainment U – Unclassifiable N – Nonattainment
SO ₂	B					B	U
No _x	B					B	U
CO	A	A				A	U
PM ₁₀	B					B	N
PM (Particulate)	B					B	U
VOC	A					A	U
THAP (Total HAPs)	B					B	

AIRS/AFS CLASSIFICATION CODES:

- A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For NESHAP only, class "A" is applied to each pollutant which is below the 10 T/yr threshold, but which contributes to a plant total in excess of 25 T/yr of all NESHAP pollutants.
- SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.
- B = Actual and potential emissions below all applicable major source thresholds.
- C = Class is unknown.
- ND = Major source thresholds are not defined (e.g., radionuclides).

12. REGISTRATION FEES

Louisiana-Pacific Corp. - Sandpoint is a major facility as defined by IDAPA 58.01.01.008.10, and is therefore subject to registration and registration fees in accordance with IDAPA 58.01.01.387.

13. RECOMMENDATION

Based on the Tier I operating permit application and review of the applicable state and federal rules and regulations, staff recommends that DEQ issue final Tier I operating permit No. 017-00003 to Louisiana-Pacific Corp. for their dimensional lumber mill in Sandpoint.

SC\DH: sd

Project No. T1-020126

G:\A Q\STATIONARY SOURCE\SS LTD\T1\LP SANDPOINT\LP SANDPT FINAL TM.DOC

APPENDIX A

EPA' s NSPS Non-Applicability Determination

LP-Sandpoint, Tier I Operating Permit Technical Memorandum

1200 Sixth Avenue
Seattle, Washington 98101

Reply To
Attn Of: OAQ-107

SEP 3 1998

RECEIVED

SEP 08 1998

DIV. OF ENVIRONMENTAL QUALITY
AIR & HAZARDOUS WASTE

Mr. Randy Sandberg

P.O. Box 4000-98
Hayden Lake, Idaho 83835

Re: NSPS Applicability Determination

Dear Mr. Sandberg:

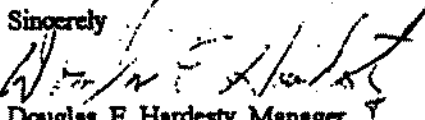
This letter is in response to your July 10, 1998, letter request for an applicability determination of the New Source Performance Standards (NSPS) Subpart Db (40 C.F.R. § 60.40) to the Kinper & Sons hog-fuel fired boiler (serial #1018) currently operating at [redacted] facility. We apologize for the delay in response to your request that was filed under 40 C.F.R. § 60.5. Based on the information that you submitted, EPA Region 10 has determined that NSPS Subpart Db does not apply to the subject boiler.

In your letter you stated that the boiler was originally constructed in 1977 with a heat input capacity of 125 million BTU/hour for operation at LPS Tillamook, Oregon facility. In 1984, LP relocated the boiler for use at its Chilco, Idaho facility. Before installation was complete, LP decided to relocate the boiler to its Sandpoint, Idaho facility. The installation of the boiler at Sandpoint included an expenditure of \$175,000 for new components. The boiler has been permitted to operate at its maximum heat input capacity of 125 million BTU/hr on hogged-fuel. No modifications have been made to the boiler to increase heat input capacity or to accommodate fuels beyond what the boiler was originally capable of firing in 1977.

The effective date of NSPS Subpart Db is June 19, 1984. The boiler was constructed prior to that date therefore it is an NSPS exempt facility. EPA has made previous determinations that the relocation of NSPS exempt facilities, as was the situation described here, does not constitute a modification, construction, or reconstruction as defined in the NSPS. Therefore, the facility remains an exempt NSPS facility. Should LP modify the unit in such a way as to accommodate new fuels, increase the maximum heat input capacity, or change the method of operation, then the boiler may become an affected facility.

If you have any questions regarding the determination in this letter, please contact Kory Tonouchi, Air Enforcement & Program Support Unit, at (206) 553-6908.

Sincerely


Douglas E. Hardesty, Manager
Federal & Delegated Air Programs Unit
Office of Air Quality

c: Sue Richards, IDEQ ✓

KT:ab
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APPENDIX B

Calculations on Process Weight Rate

L-P, - Sandpoint, Tier I Operating Permit Technical Memorandum

APPENDIX C

**Technical Memorandum for Tier II Operating Permit No. 017-00003
issued on July 7, 1995**

L-P, - Sandpoint, Tier I Operating Permit Technical Memorandum

May 22, 1995

MEMORANDUM

TO: Brian R. Monson, Chief
Operating Permits Bureau

FROM: Darrin Mehr, Air Quality Engineer *DM*
Operating Permits Bureau

THROUGH: Sue Richards, Air Quality Permits Manager *SR*
Operating Permits Bureau

SUBJECT: Technical Analysis for Tier II Operating Permit #017-00003 (Louisiana Pacific, Sandpoint) as Required by Sandpoint PM₁₀ State Implementation Plan (SIP) - Sandpoint Extension Project

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 16.01.01.401.03(a) Rules for the Control of Air Pollution in Idaho (Rules) for the issuance of Operating Permits.

FACILITY DESCRIPTION

This facility's operations were covered under an operating permit issued on February 27, 1989. This permit was altered by two settlement agreements -- one signed in 1989, and the other in 1991. This permit is currently effective.

Louisiana Pacific Corporation's (L-P) Sandpoint, Idaho, facility is a planing mill that produces kiln-dried dimensional lumber.

Rough-cut green lumber is delivered by haul trucks to the Sandpoint facility by off-site sources. The green lumber is unloaded and stored temporarily before being placed into drying kilns to reduce the moisture content. Dried lumber is then planed for a smooth surface finish and cut to the desired dimensions by the trim saw. The finished lumber is restacked and banded for shipping. For the major portion of the lumber produced, the ends of the lumber are spray painted. This process is called end sealing, which is not included in the currently-effective operating permit that was issued February 27, 1989. The lumber is transported to haul trucks or rail cars for shipment off-site. Waste streams include planer shavings from the planer, and sawdust and hogged trim ends from the trim saw. These materials are of kiln-dried material and are routed through various cyclones to the truck bin, where the material is batch dropped into haul trucks for off-site transport.

Haul trucks carrying woodwaste derived from off-site sources deliver hogged fuel with approximately 50% moisture content to a dump pit. The fuel is transferred from the dump pit by a conveyor to a three-sided fuel storage building. The woodwaste is transferred by covered conveyor from the temporary storage building to the woodwaste boiler fuel metering bin, where it is weighed and delivered to the boiler for combustion. Emissions from the hogged fuel handling were considered negligible. Front-end loaders clear these areas of woodwaste when necessary.

Sources that emit particulate matter with an aerodynamic diameter equal to or less than ten (10) microns (PM₁₀) at this facility can be divided into three main categories: combustion sources, cyclones and baghouse, and fugitive emission sources.

Combustion Sources

Combustion sources include a Kipper and Sons woodwaste boiler and two natural gas-fired boilers. The Kipper and Sons woodwaste boiler is designed to produce 60,000 pounds of steam per hour (lb steam/hr) from combusting woodwaste with a moisture content of approximately 50%.

The woodwaste consists of hogged fuel of shavings and bark, and is derived from other Louisiana Pacific facilities. This boiler operates nearly continuously in order to supply the kilns with process steam to drive off the excess moisture in the green lumber.

Particulate matter (PM) and PM_{10} emissions are controlled by a multiclone connected in series with an electrified filter bed (EFB). The multiclone removes the larger particles from the exhaust stream before the exhaust is filtered by the EFB. The EFB is fitted with a media baghouse to control particulate emissions from the cleaning of the filter media (gravel in this case) before it is recycled through the EFB. A continuous opacity monitoring system (COMS) is an applicable operating requirement on the woodwaste boiler, pursuant to New Source Performance Standard (NSPS) Subpart Db, because the permitted heat input rating of the boiler is greater than 100 MMBtu/hr.

Two (2) Cleaver Brooks natural gas-fired boilers operate as backup boilers and operate when the woodwaste boiler and/or its pollution control equipment are shut down for maintenance. Each boiler has a rated capacity of 14,000 lb steam/hr. Emissions from the natural gas boilers vent from individual stacks and are uncontrolled.

Point source emissions from these combustion process include criteria pollutant emissions consisting of PM, PM_{10} , NO_x , SO_2 , CO, and VOCs. The natural gas boilers are very minor point sources of PM_{10} .

Cyclones and Truck Bin Baghouse

The cyclones and related pneumatic equipment are used as a means of process control. The woodwaste gathered from operation of this facility is of a very low moisture content and historically has presented an economic incentive for use at other L-P facilities. This woodwaste is collected and transferred pneumatically to the woodwaste loadout bin where it is transferred to haul trucks.

Current Pneumatic Conveyance System

This is an area where the original 1989 permit and SIP emission inventory are drastically different from what is currently in place. Dried lumber is removed from the kilns and planed to desired dimensions. Planer shavings are collected and transported pneumatically to the Planer Cyclone where the planer shavings drop out into the Truck Bin. The Planer Cyclone is a point source of particulate matter (PM) and PM_{10} emissions.

From the planer, the lumber is conveyed to the end trimmer area where the lumber is sawed to desired length. Sawdust and trim ends are waste products. Trim ends too small to be utilized at other off-site facilities are hogged and, like the sawdust, are routed to the End Trim Cyclone. A Transfer Cyclone conveys this material to the Planer Cyclone where it joins the planer shaving waste stream for eventual deposition in the Truck Bin. The End Trim and Transfer cyclones are point sources of PM and PM_{10} emissions. The planer cyclone's exhaust vent emissions are routed directly to the Truck Bin Baghouse, which is a source of PM_{10} emissions.

The woodwaste captured by the Truck Bin Baghouse is shaken out and transferred to the Truck Bin via the closed-loop (does not exhaust to the atmosphere) Truck Bin Cyclone. A cut shop hog unit that is only used intermittently is routed to a the Cut Shop Hog Cyclone. This closed-loop cyclone's ductwork connects to a target box above the Truck Bin. A vent is located on this target box which is assumed to provide pressure relief for the Cut Shop Hog Cyclone dropout, Planer Cyclone dropout, and the Truck Bin Cyclone dropout.

Fugitive Emission Sources

Fugitive PM_{10} emission sources at this facility are created by vehicle traffic on paved and unpaved roads and areas, woodwaste loadout from the truck bin, venting of the truck bin, handling of ash from the woodwaste boiler, and end coating (sealing paint) of finished product bundles prior to short term storage.

Vehicle Traffic

Fugitive PM_{10} emissions result from haul truck traffic on unpaved roads, material transfer, and front-end loader traffic in unpaved areas.

Other sources of fugitive PM_{10} emissions result from haul trucks transporting green lumber on-site on paved roads, other facility vehicle traffic on paved roads, ash handling, and material handling of hogged fuel for the boiler

Dry Kilns

The five (5) drying kilns process green lumber from off-site sources, and are a significant source of VOC and condensable PM_{10} emissions. The dry kilns are considered to be the process throughput limiting operation (referred to as the process "bottleneck"). The kilns are capable of producing approximately 200 million board feet of finished lumber according to L-P personnel. This source was not in any previous inventory or permit.

Truck Bin Loadout and Venting

Planer shavings, hogged trim ends, and shavings are loaded into haul trucks. The waste is from kiln-dried material and is, therefore, more likely to be a source of fugitive emissions. To abate PM_{10} emissions, L-P currently has a two-sided enclosure in place. The truck bin venting was previously unaccounted for. This is a small source, and discussions with DEQ inspection personnel imply that this is true. The venting emission estimate was assumed to account for the entire truck bin loadout throughput.

PROJECT DESCRIPTION

Sandpoint, Idaho, located in Bonner County, exceeded the 24 hour average 150 microgram per cubic meter ($\mu g/m^3$) PM_{10} National Ambient Air Quality Standard (NAAQS) a total of eight (8) times. The events that led to the requirement of the issuance of an interim operating permit for Louisiana Pacific are documented extensively in the Sandpoint Area Particulate Matter (PM_{10}) Air Quality Improvement Plan as prepared by the Idaho DEQ for EPA-Region X. A thorough explanation of the role of operating permits in reducing the impact of industrial sources and the modeling to support the permitting decisions is included in this document.

Community Programs, DEQ, formally requested that the Operating Permits Bureau draft permits in support of the inventory, modeling, and control strategy within the document referenced above.

The SIP control strategy has been re-evaluated from the point of view that the "seasonality" issue is no longer of concern. Permits will not contain any specific "winter" season emission limits that are more stringent than the remaining portion of the calendar year.

The industrial sources affected by the SIP permitting requirements are to have restrictions on operations that may include throughput limitations, operating schedule limitations, required plant operation requirements (such as fugitive dust control), and required control equipment to be utilized during operation.

Contingency Measures

L-P has proposed the following control equipment installations and process/operation modifications:

- 1) Pave the remaining unpaved haul road.
- 2) Construct the truck bin loadout enclosure according to specifications given in past correspondence with DEQ (4 sides with heavy polyethylene strips on leeward side).
- 3) Remove the End Trim Cyclone (replace existing transfer cyclone with a larger cyclone, if necessary).
- 4) Construct the end coating operation enclosure as listed in public comment documentation.
- 5) Redirect the EFB Baghouse Vent and Truck Bin Baghouse Vent from horizontal to vertical.

L-P will be required to implement the above control equipment and techniques by July 1, 1996. DEQ must receive official notification from L-P certifying that they have successfully implemented their proposed contingency measures.

These measures give L-P the advantage of being able to operate all emission sources for 24 hours per day (except the natural gas boilers), 7 days per week, and 52 weeks per year.

Until these measures are implemented, the pneumatic system (Truck Bin Baghouse, End Trim Cyclone, etc.) will be limited to the following schedule:

5 days per week: 20 hours actual production operation per day
2 days per week: 10 hours actual production operation per day
52 weeks per year

Vehicle traffic and other production-related activities were assumed to occur during normal operating hours and are thus limited to the same schedule.

Emission Limits

Emission limits have been set according to information submitted by L-P in the SIP emission inventory and subsequent computer modeling of the emissions data. Facility representatives were given the opportunity to review the information in the inventory and provide comment on specifications and assumptions. The modeling assessed impacts of PM₁₀ emissions on ambient air quality according to this information.

Natural Gas Boilers

The natural gas boilers are currently limited to 720 hours of operation as applied for in the July 27, 1988, Permit to Construct (PTC) application, and incorporated in the Feb. 27, 1989, operating permit. A formal PTC modification will be required to legally increase the operating hours from 720 hours per year (hr/yr) to 8760 hrs/yr, as requested.

Woodwaste Boiler

The Kipper and Sons woodwaste boiler is currently allowed to produce up to 75,000 lb steam/hr and/or operate at 125 million British Thermal Units/hour (Btu/hr) gross heat input, as agreed to in the 1991 Settlement Agreement between the Department and L-P.

To date, the boiler has only been source tested up to 68,500 lb steam/hr, which is its maximum operating limit until the boiler/EFB combination passes a future performance test subject to the PM₁₀ pound per hour emission and the State of Idaho grain loading standard of 0.080 grains per dry standard cubic feet (gr/dscf) corrected to 8% oxygen. Annual source testing is included as a permit requirement for this emissions unit. The source test will be required on the boiler stack but not the EFB Media Baghouse Vent.

SUMMARY OF EVENTS

Aug. 7, 1987:	The Sandpoint, Idaho, area was declared a nonattainment area for exceedances of the PM ₁₀ NAAQS.
1989:	A detailed PM ₁₀ emission inventory for industrial sources was initiated.
Feb. 27, 1989:	Louisiana-Pacific was issued a facility-wide operating permit for the Sandpoint plant and a permit to construct for its Kipper and Sons woodwaste boiler.
Aug. 17, 1989:	Louisiana-Pacific entered into a settlement agreement with DEQ that amended their Permit to Construct and operating permit.
June 14, 1991:	Louisiana-Pacific entered into a second settlement agreement with DEQ withdrawing their Emission Reduction Credit application and granting woodwaste boiler operation at 75,000 lb steam/hr and 125 MM Btu/hr heat input.

Dec., 1992: The resulting document, Industrial Point Source PM-10 Emission Inventory for Sandpoint, Idaho was submitted by Morrison Knudsen's Environmental Services Division to DEQ.

May 14, 1993: The Sandpoint Area Particulate (PM₁₀) Air Quality Improvement Plan was submitted to EPA.

Feb. 10, 1994: The Sandpoint Fall Episode Modeling was submitted to EPA Region X.

Apr. 8, 1994: Ordinances were submitted by DEQ to EPA.

May 27, 1994: Louisiana Pacific's draft operating permit was delivered to DEQ by subcontractor, Bison Environmental Resources.

DISCUSSION

1. Emission Estimates

The emission estimates and assumptions for the revised SIP inventory form the basis for Louisiana Pacific's operating conditions, and thus the emission estimates used for modeling in the attainment demonstration. A vast amount of information had to be incorporated into L-P's new inventory. DEQ gained the major portion of this information from direct contact with L-P environmental staff and their consultants. Please see Appendix A to view DEQ's working copy of the emissions inventory spreadsheet.

The drying kilns were modeled as a fugitive source of condensable PM₁₀ (CPM₁₀) emissions. The emissions were estimated using draft EPA AP-42 emission factors that possibly overestimate emissions for the typical tree species utilized in the Western United States.

Throughput Limits and Operating Hours

A throughput limitation of 200 million board feet (MMBd ft) per year of finished product is the basis for the permitted material throughputs and emissions limits for facility operation after incorporation of contingency measures. The emission limits that will be effective immediately upon permit issuance are based on actual production operating hours, according to L-P's response to DEQ's Section 122 Information Request (Feb. 2, 1995/Trueblood to Monson). The response showed that during actual production, L-P operates approximately 120 hours per week. Once all of the proposed contingency measures have been incorporated, L-P will be allowed 168 hours per week.

The PM₁₀ hourly emission limit for the Kipper and Sons woodwaste boiler was determined using the August 22, 1991, performance test and allowing an additional ten percent (10%) for variance in source test conditions and data. The source tests determined total suspended particulate (TSP) emissions. According to the 1991 Settlement Agreement, L-P agreed to claim all Method 5 (plus the back half catch Method 202 analysis) particulate emissions as PM₁₀.

Much of the fugitive PM₁₀ emissions from vehicle traffic are reduced due to paving of the roads. Future vehicle fugitives will be reduced by paving of the remaining unpaved access road and continued regular use of a street sweeper.

2. Modeling

A complete discussion of the modeling exercise performed for the demonstration of attainment is contained within the updated version of the Sandpoint Area Particulate (PM₁₀) Air Quality Improvement Plan. The modeling predicts that with the updated industrial source emission inventories, the implementation of the control strategy in the above document demonstrates attainment of the 24 hour average, 150 microgram per cubic meter ($\mu\text{g}/\text{m}^3$) PM₁₀ National Ambient Air Quality Standard (NAAQS).

3. Area Classification

Louisiana Pacific-Sandpoint is located in the Sandpoint PM₁₀ nonattainment area, in Bonner County. The area is designated as attainment or unclassifiable for all other criteria pollutants.

4. Facility Classification

Louisiana Pacific-Sandpoint is a major source as defined by IDAPA 16.01.01.006.54 for carbon monoxide (CO) emissions. Louisiana Pacific-Sandpoint is not a designated facility, as defined in IDAPA 16.01.01.006.25 (Rules for the Control of Air Pollution in Idaho).

5. Regulatory Review

The facility is subject to the following permitting requirements:

- | | | |
|----|---------------------------------|--|
| a) | <u>IDAPA 16.01.01.200</u> | Procedures and Requirements for Permits to Construct. |
| b) | <u>IDAPA 16.01.01.401.03(a)</u> | Tier II Operating Permit Required for Attainment of a National Ambient Air Quality Standard; |
| c) | <u>IDAPA 16.01.01.403</u> | Permit Requirements for Tier II Sources; |
| d) | <u>IDAPA 16.01.01.406</u> | Obligation to Comply; |
| e) | <u>IDAPA 16.01.01.470</u> | Permit Application Fees for Tier II Permits; |
| f) | <u>IDAPA 16.01.01.625</u> | Visible Emissions Opacity Restrictions; |
| g) | <u>IDAPA 16.01.01.650</u> | General Rules for the Control of Fugitive Dust; and |
| h) | <u>IDAPA 16.01.01.676</u> | Particulate Matter Standards for New Fuel Burning Equipment Sources. |

FEES

In accordance with IDAPA 16.01.01.470 of the Rules, L-P is subject to permit application fees for Tier II permits. The amount required is \$500.00. IDAPA 16.01.01.470 became effective on March 7, 1995.

RECOMMENDATIONS

After a review of the updated Sandpoint PM₁₀ State Implementation Plan (SIP) emission inventory, and supplemental information provided pursuant to Section 122 Department information requests, I recommend that DEQ issue Louisiana Pacific a Tier II operating permit to satisfy the requirements of the Sandpoint PM₁₀ SIP attainment strategy, as required by the EPA. The permit should be made available for public and EPA review.

The updated information was used to remodel the attainment demonstration for the Sandpoint nonattainment area (SNA). The permit should be viewed as satisfying the required legally enforceable implementation of RACT/RACM, thereby allowing EPA to grant an extension for the attainment date of the 24 hour PM₁₀ standard of 150 µg/m³. This would delay redesignation of the SNA as a "serious" PM₁₀ nonattainment area.

Emission limits and operating hour restrictions should be incorporated as listed in the proposed interim operating permit appendices located in Appendix B of this memorandum. These restrictions are based on requirements of the Sandpoint PM₁₀ State Implementation Plan and the information provided by L-P in the development of the SIP attainment demonstration control strategy.

I also recommend that L-P be notified of the Tier II permit fee requirement in writing. This fee will be applicable upon issuance of the permit.

SRW:JRDW:jdlp_exten.TMM

cc: D. Redline, NIRO
Source File
COF 1.1

Appendix A

**Louisiana-Pacific Corporation
Sandpoint Planer Mill**

Emissions Inventory

LOUISIANA PACIFIC—SANDPOINT PM—10 EMISSION INVENTORY

PM-10 SIP DOCUMENTATION

DATE: 10-7-94

LATEST UPDATE: 5-10-95

THIS INFORMATION WILL BE USED IN THE REANALYSIS OF THE SANDPOINT SIP STRATEGY.

STRATEGY CHANGE FROM ORIGINAL SIP ANALYSIS.

SEASONALITY (WINTER PERIOD vs SUMMER) WILL NOT BE USED.

MODELING WILL BE DONE BASED ON A 24-HOUR MAXIMUM IMPACT ANALYSIS.

No permit modification requests or contested case of these permit terms were ever received (including 1991 Settlement Agreement w/ J. Runavold)

SCENARIO #1: (Not to be used for the SIP analysis)

1993 ALLOWABLE EMISSIONS

Cyclones, Truck Bin Baghouse, Vehicle Traffic: 16 hrs/day, 5 days/wk, 52 wks/yr; 4180 hrs/yr
Kipper & Sons Woodwaste Boiler: 24 hrs/day, 7 days/wk, 43 wks/yr; 7224 hrs/yr @ 68,500 lb steam/yr
Natural Gas Boilers (#1, #2): 24 hrs/day, 30 days/yr; 720 hrs/yr

SCENARIO #2:

1993 ACTUAL EMISSIONS (longer operating hours than 1993 Allowable Emissions)

Cyclones, Truck Bin Baghouse, Vehicle Traffic: 20 hrs/day Mon-Fri, 10 hrs/day Sat, Sun, 52 wks/yr; 6240 hrs/yr
Kipper & Sons Woodwaste Boiler: 24 hrs/day, 7 days/wk, 52 wks/yr; 8760 hrs/yr @ 68,500 lb steam/yr
Natural Gas Boilers (#1, #2): 24 hrs/day, 30 days/yr; 720 hrs/yr

SCENARIO #3:

1996 ALLOWABLE EMISSIONS (Based on L-P's proposed modifications to the facility and increased throughput)

Cyclones, Truck Bin Baghouse, Vehicle Traffic: 24 hrs/day, 7 days/wk, 52 wks/yr; 8760 hrs/yr
Kipper & Sons Woodwaste Boiler: 24 hrs/day, 7 days/wk, 52 wks/yr; 8760 hrs/yr @ 75,000 lb steam/yr
Natural Gas Boilers (#1, #2): 24 hrs/day, 7 days/wk, 52 wks/yr; 8760 hrs/yr

As of March 17, 1995:

L-P has stated that they keep NO records of cyclone operation. Therefore, use of C. Trueblood's Section 122

response (two 10 hour shifts Mon-Fri, one 10 hour shift Sat & Sunday) --> USE FOR 1993 ACTUALS

1993 PERMIT ALLOWABLES WILL BE BASED ON 16 HOURS/DAY MON-FRI (No weekend operation of cyclones applied for)

SOURCES NOT IDENTIFIED BY THE ORIGINAL SIP MODELING:

GREEN LUMBER DRYING KILNS

PAINT FUGITIVES FROM END COATING

ASH HANDLING FROM THE WOODWASTE BOILER

FACILITY CHANGES FROM ORIGINAL 1990 DATA TO THE 1993 DATA (not identified by the '90 inventory)

BAGHOUSE ADDED TO CYCLONE #3 EXHAUST

A 2-sided truck bin loadout area

SOURCES NOT IDENTIFIED BY THE ORIGINAL SIP INVENTORY OR L-P'S VERSION OF THE INVENTORY

TRUCK BIN VENT - This source has not been previously identified, but it seems logical that a vent exists in a pneumatic system (cut shop hog is routed closed-loop to the truck bin according to the L-P process diagram)

PROPOSED MODIFICATIONS TO FACILITY TO INCREASE PRODUCTION:

1) PAVE THE REMAINING UNPAVED HAUL ROAD (FOR HOGGED FUEL DELIVERY).

2) ENCLOSE THE TRUCK BIN LOADOUT AREA (POLYETHYLENE STRIPS ON LEeward END OF ENCLOSURE WILL PROVIDE PARTIAL FUGITIVE CONTROL (90 TO 95%).

3) REMOVAL OF CYCLONE #4 (END TRIM CYCLONE).

CYCLONE #1 WILL PROBABLY BE REPLACED WITH A LARGER CYCLONE TO HANDLE INCREASED PRODUCT FLOW.

4) ENCLOSURE OF THE END COATING OPERATION (THE OVERSPRAY PERCENTAGE SHOULD DECREASE CONSIDERABLY WITH THE LOWER WINDSPEED CREATED BY THE ENCLOSURE).

VENTING OF THE AREA WILL MEAN A 100% REDUCTION IS NOT POSSIBLE.

5) 8760 HOURS OF OPERATION ALLOWED PER YEAR (EVERY SOURCE) -- THIS MAY REQUIRE L-P TO APPLY FOR AND RECEIVE PERMIT TO CONSTRUCT MODIFICATIONS.

THE SIP ANALYSIS WILL CONSIDER ALL MODIFICATIONS AND THE INCREASES IN PRODUCTION THAT THE FACILITY WANTS, BUT THE PERMITS ISSUED UNDER THE SIP AUTHORITY CANNOT BE WRITTEN WITH THOSE EMISSION LIMITS AND PROVISIONS. IT WILL BE UP TO THE COMPANY TO COMPLY WITH PERMIT TO CONSTRUCT REQUIREMENTS AND GET TIER II OF MODIFICATIONS.

INVENTORY UPDATES:

4-5-95: Truck bin venting emissions. Emission Factor (e.f.) for Particulate matter (PM) will be Oregon DEQ's 0.1 lb/dry ton for target boxes. The PM-10 fraction will be 40% of PM.

The truck bin must be vented to allow for pneumatic transfer of woodwaste to the bin. According to Tom Harman, he has never witnessed any significant emissions from a vent on the truck bin.

Since the AP-42 Table 10.4.2 bin venting emission factor would estimate larger venting emissions than emissions for woodwaste loadout, the Oregon DEQ e.f. should more accurately portray actual operations at the mill.

4-5-95: Hog fuel truck payload is 27 tons instead of 25 tons.

4-5-95: 30% of all finished lumber is transported off-site via trucks. The rest is delivered via rail car. VMT and VMT emissions should be updated.

From the 3-31-95 response from J. Evensen: 28,000 bd ft/truck load, or 27 tons/truck. Round trip distance is 1,100 ft, or 0.21 miles.

4-25-95: There was an error in the hourly and daily emissions for woodwaste boiler ash handling emissions.

The daily emissions were not correctly converted to pounds per day.

4-26-95: There is another operational scenario that needs to be considered for the SIP modeling demonstration.

1993 Allowable emissions and production rates using the existing control devices/methods

This is the scenario that will actually be written into an operating permit

PM-10 1993 ALLOWABLES (From Operating Permit):

pound per hour (lb/hr) and tons per year (TPY)

Source: Operating permit #0240-003 issued Feb. 27, 1989 Status: currently effective permit

SOURCE	PM-10 Emissions		
	(lb/hr)	(TPY)	
KIPPER & SONS	19.62	71.61	All other sources previously unpermitted. Need a good explanation of the material flow through the plant to determine the "potential to emit."
WOODWASTE BOILER			
Natural Gas Boiler #1	0.00	0.032	
Natural Gas Boiler #2	0.00	0.032	
Planer Cyclone (#1)	0.62	1.81	
Truck Bin Cyclone (#3)	0.14	0.42	Paved roads were not considered "negligible" for the Sandpoint SIP analysis.
Trim Saw Cyclone (#4)	0.14	0.41	
FUGITIVES:			
Paved roads	Negligible	Negligible	
Unpaved: truck haul of woodwaste to storage	0.15	0.53	
Material transfer truck bin to trucks	0.012	0.04	PM-10 limit set by taking 1/1000th of the original (2 lb/ton WW loadout) value.
Subtotals:	21.062	74.884	

Louisiana-Pacific Sandpoint Material Balance
 Provided by L-P in Section 122 Response (2-2-95)

Discussion

A mass balance for the purposes of determining accuracy of vehicle traffic emissions.

1993 Actual Throughputs

Input of Raw Material, & Finished Product	Volume (MM bd ft)	Volume b. d. units	Mass (tons)	Bone Dry Mass (bone dry tons)	Assumed Moisture (%)
Inputs:					
Green Lumber	129.4		213,510	121,701	43
Hog Fuel		27,600	33,120	16,560	50
Finished Product:					
Finished Lumber	118.3		112,385	95,527	15
Shavings to Other Mills		18,292	21,950	18,658	15
Trim Ends to EWP Mill	11.1		10,545	<u>8,963</u>	15
				123,148	
Waste Output:					
Ash to Landfill (Volume in yards ^ 3)	1,464		805.2		

% Discrepancy = -1.19
 (finished product to
 green lumber input)

Conversion Factors provided by Louisiana-Pacific:

3,300 lbs per 1,000 bf green lumber
 1,900 lbs per 1,000 bf finished lumber
 2,400 lbs per BDU
 1,100 lbs/yard ^ 3 ash

1996 200 MM bd ft Throughput

Input of Raw Material, & Finished Product	Volume (MM bd ft)	Volume b. d. units	Mass (tons)	Bone Dry Mass (bone dry tons)	Assumed Moisture (%)
Inputs:					
Green Lumber	219.0		361,350	205,970	43
Hog Fuel			55,993	27,997	50
Finished Product:					
Finished Lumber	200.2		190,203	161,673	15
Shavings to Other Mills		30,958	37,149	31,577	15
Trim Ends to EWP Mill	18.8		17,647	<u>15,170</u>	15
				208,420	
Waste Output:					
Ash to Landfill (Volume in yards ^ 3)	2,475		1,361		

% Discrepancy = -1.19
 (finished product to
 green lumber input)

Modifications to existing permit required for 200 MM bd ft/yr:

Natural gas boilers: Increase operating hours and allowable emissions for 8760 hrs/yr operation
 Woodwaste boiler: Increase in operating hours from 7224 hours/yr to 8760 hrs/yr
 Woodwaste cyclones: Increase operating hours
 Truck Bin Loadout: Emission limit will increase dramatically from currently-effective 0.04 ton/yr.

LOUISIANA PACIFIC CORPORATION - SANDPOINT
PM-10 EMISSIONS - POINT SOURCES (All Three Scenarios)

SOURCE DESCRIPTION	EMISSION FACTOR	FACTOR UNITS	EMISSION FACTOR SOURCE	RELEVANT DATA	DATA UNITS	PM-10 FRACTION (%)	# HOURS Operation per DAY	# HOURS Operation per YEAR	HOURLY EMISSIONS (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
Kipper & Sons Woodwaste Boiler	5.080	lb PM/hr	8/91 source test*1	68500	lb steam/hr	100	24	7224	5.080	121.440	18.277	Front and back half; @ Scenario #1
Kipper & Sons Woodwaste Boiler	5.080	lb PM/hr	8/91 source test*1	68500	lb steam/hr	100	24	8760	5.080	121.440	22.163	Scenario #2
Kipper & Sons Woodwaste Boiler	5.080	lb PM/hr	8/91 source test*1	75000	lb steam/hr	100	24	8760	5.084	146.260	28.602	Scenario #3; plus 10% for limit
Woodwaste Boiler EFB Baghouse	0.005	grains PM/scf *4	L-P estimate	5000	cu ft/min *6	100	24	7224	0.214	5.143	0.774	Scenario #1
Woodwaste Boiler EFB Baghouse	0.005	grains PM/scf *4	L-P estimate	5000	cu ft/min	100	24	8760	0.214	5.143	0.939	Scenario #2
Woodwaste Boiler EFB Baghouse	0.005	grains PM/scf *4	L-P estimate	5000	cu ft/min	100	24	8760	0.235	5.631	1.025	Scenario #3
Natural Gas Boiler #1 *3	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	100	24	720	0.218	5.229	0.078	1989 OP: 30 days; Scenarios #1, #2
Natural Gas Boiler #1 *3	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	100	24	8760	0.218	5.229	0.954	Scenario #3
Natural Gas Boiler #2 *3	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	100	24	720	0.218	5.229	0.078	1989 OP: 30 days; Scenarios #1, #2
Natural Gas Boiler #2 *3	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	100	24	8760	0.218	5.229	0.954	Scenario #3
Truck Bin Baghouse	0.005	grains PM/scf *5	AP-42 Tab. 10.4.1	28900	ACFM *5	100	18	4180	1.230	19.817	2.576	Scenario #1
Truck Bin Baghouse	0.005	grains PM/scf *5	AP-42 Tab. 10.4.1	28900	ACFM	100	24	6240	1.230	29.726	3.864	Scenario #2
Truck Bin Baghouse	0.005	grains PM/scf *5	AP-42 Tab. 10.4.1	28900	ACFM	100	24	8760	1.230	29.726	5.425	Scenario #3
Transfer Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	10000	ACFM	40	18	4180	1.029	16.457	2.139	Scenario #1; 40% PM-10 AIRS Frac
Transfer Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	10000	ACFM	40	24	6240	1.029	24.686	3.209	Scenario #2
Transfer Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	10000	ACFM	40	24	8760	1.029	24.686	4.505	Scenario #3
Trim Saw Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	5000	ACFM	40	18	4180	0.514	8.229	1.070	Scenario #1; 40% PM-10 AIRS Frac
Trim Saw Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	5000	ACFM	40	24	6240	0.514	12.343	1.605	Scenario #2
Trim Saw Cyclone	0.030	grains/scf	AP-42 Tab. 10.4.1	5000	ACFM	40	0	0	0.000	0.000	0.000	Scenario #3
Lumber Drying Kilns *3	0.225	lb PM / 1000 bd ft	L-P cite EPA draft	118.3	MM bd ft/yr	100	24	8760	3.039	72.925	13.309	Scenarios #1, #2
Lumber Drying Kilns *3	0.225	lb PM / 1000 bd ft	L-P cite EPA draft	200	MM bd ft/yr	100	24	8760	5.137	123.288	22.500	Scenario #3; 1998 - > 200 MM bd ft

*1 L-P's operating rate of 68,500 lbs steam/hr was approved in a Feb. 21, 1992 letter. Since the source test contained only two complete performance runs, and the operating rate was based on a single run with the greatest steaming rate achieved during the test, the emission factor used will be the single run's emission factor that relates the actual emission rate at 68,500 lbs steam/hr (Run #3).

Second note about the woodwaste boiler: NO process weight rate-related information, or ultimate analysis was provided in EITHER the July, '89 source test or the August, '91 source test. This information would have been EXTREMELY helpful in establishing meaningful heat input and fuel throughput limitations in their permit.

On 10/31/94, Ron Hill explained that L-P had the option of performing a source test for CO and TSP/PM-10, with the PM-10 emission rate equal to 100% of the TSP fraction.

*2 Draft emission factor for EPA. L-P's consultants supplied this value as part of the public comment emission inventory. The value of 0.225 lb PM/1000 bd ft differs from the 0.187 lb PM/1000 bd ft quoted over the phone on October 26, 1994, that Dallas Satriet, EPA, Research Triangle Park, said had been developed as a preliminary emission factor for Southern Yellow Pine for the species being dried in the kilns.

*3 The heat input into each natural gas boiler is a manufacturer rated 16.7 million Btu/hr. Natural gas heat content is 1050 Btu/scf from AP-42 Appdx A-3. A permit to construct modification is required for increasing natural gas boiler operation to any level in excess of 720 hours per year.

*4 This is TEAM Environmental's estimate, and there is still a question about whether the emission factor requires ACFM rather than SCFM.

*5 28,900 ACFM set according to C.Trueblood, Attorney, in a certified (later date by V.P. of L-P) Section 122 response.

*6 The Section 122 Response from Trueblood did not address how a woodwaste collection emission rate can be applied to a baghouse used for controlling particulate matter from a woodwaste boiler electrified filter bed's disengagement columns (i.e., this is a combustion-related source--not woodwaste collection).

Units Key:

lb/hr = pounds per hour

lb/day = pounds per day

Tons/yr = Tons per year

lb steam/hr = pounds of steam per hour

MM bd ft = million board feet

Btu/scf gas = British Thermal Units per standard cubic foot natural gas

gr/scf = grains per standard cubic foot

ACFM = Actual Cubic Feet per Minute

SCENARIO #1 - POINT SOURCES
1993 ALLOWABLE PM-10 EMISSIONS (In the end, Scenario #1 will not be used in the SIP analysis.)
USE AS A COMPARATIVE ANALYSIS ONLY (# HRS OPERATION AT CURRENT AEI EMISSION RATES (ACTUAL) USING PTC APPLICATION AND ANALYSIS # HOURS OF OPERATION.

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)
Kipper & Sons Woodwaste Boiler	5.080	121.440	18.277
Woodwaste Boiler EFB Baghouse	0.214	5.143	0.774
Natural Gas Boiler #1	0.218	5.229	0.078
Natural Gas Boiler #2	0.218	5.229	0.078
Truck Bin Baghouse	1.239	19.817	2.578
Transfer Cyclone	1.029	18.457	2.139
Trim Saw Cyclone	0.514	8.229	1.070
Lumber Drying Kilns	3.039	72.925	13.309
Subtotals:	11.530	254.485	38.302

SCENARIO #2 - POINT SOURCES
1993 ACTUAL PM-10 EMISSIONS

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)
Kipper & Sons Woodwaste Boiler	5.080	121.440	22.163
Woodwaste Boiler EFB Baghouse	0.214	5.143	0.939
Natural Gas Boiler #1	0.218	5.229	0.078
Natural Gas Boiler #2	0.218	5.229	0.078
Truck Bin Baghouse	1.239	29.728	3.884
Transfer Cyclone	1.029	24.686	3.209
Trim Saw Cyclone	0.514	12.343	1.805
Lumber Drying Kilns	3.039	72.925	13.309
Subtotals:	11.530	278.721	45.245

SCENARIO #3 - POINT SOURCES
1996 ALLOWABLE PM-10 EMISSIONS

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)
Kipper & Sons Woodwaste Boiler	6.094	146.260	26.682
Woodwaste Boiler EFB Baghouse	0.235	5.631	1.028
Natural Gas Boiler #1	0.218	5.229	0.054
Natural Gas Boiler #2	0.218	5.229	0.054
Truck Bin Baghouse	1.239	29.728	5.425
Transfer Cyclone	1.029	24.686	4.505
Trim Saw Cyclone	0.000	0.000	0.000
Lumber Drying Kilns	5.137	123.288	22.500
Subtotals:	14.169	340.049	62.656

1993 ACTUAL EMISSIONS (ALL OTHER POLLUTANTS)

This includes criteria pollutants from combustion sources and VOCs from the drying kilns. VOCs from the endcoating operation are considered fugitives. VOCs calculated are Non-methane VOCs.

SOURCE DESCRIPTION	Pollutant	EMISSION FACTOR	EMISSION FACTOR UNITS	EMISSION FACTOR SOURCE	RELEVANT DATA	DATA UNITS	# HOURS Operation PER DAY	# HOURS Operation per YEAR	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
SCENARIO #1 Kipper & Sons Woodwaste Boiler Operation: 24 h/d, 7 d/w, 43 w/y	PM	5.06	lb PM/hr	'91 source test	68500	lb steam/hr	24	7224	5.06	121.44	18.28	
	CO	34.03	lb CO/hr	'91 source test	68500	lb steam/hr	24	7224	34.03	816.72	122.92	
	NOx	1.50	lb/ton fuel	AP-42 Tab. 1.6-2	10.7	Tons fuel/hr	24	7224	15.98	383.80	57.73	
	SOx	0.075	lb/ton fuel	AP-42 Tab. 1.6-2	10.7	"	24	7224	0.80	19.18	2.89	
	VOCs	0.22	lb/ton fuel	AP-42 Tab. 1.6-3	10.7	"	24	7224	2.34	56.28	8.47	
SCENARIO #2 Kipper & Sons Woodwaste Boiler Operation: 24 h/d, 7 d/w, 52 w/y	PM	5.06	lb PM/hr	'91 source test	68500	lb steam/hr	24	8760	5.06	121.44	22.16	
	CO	34.03	lb CO/hr	'91 source test	68500	lb steam/hr	24	8760	34.03	816.72	149.05	
	NOx	1.50	lb/ton fuel	AP-42 Tab. 1.6-2	10.7	Tons fuel/hr	24	8760	15.98	383.80	70.01	
	SOx	0.075	lb/ton fuel	AP-42 Tab. 1.6-2	10.7	"	24	8760	0.80	19.18	3.50	
	VOCs	0.22	lb/ton fuel	AP-42 Tab. 1.6-3	10.7	"	24	8760	2.34	56.28	10.27	
SCENARIO #3 Kipper & Sons Woodwaste Boiler Operation: 24 h/d, 7 d/w, 52 w/y	PM	5.06	lb PM/hr	'91 source test	75000	lb steam/hr	24	8760	5.54	132.96	24.27	
	CO	34.03	lb CO/hr	'91 source test	75000	lb steam/hr	24	8760	37.26	894.22	163.19	
	NOx	1.50	lb/ton fuel	AP-42 Tab. 1.6-2	11.7	Tons fuel/hr	24	8760	19.18	459.85	83.92	
	SOx	0.075	lb/ton fuel	AP-42 Tab. 1.6-2	11.7	"	24	8760	0.96	22.99	4.20	
	VOCs	0.22	lb/ton fuel	AP-42 Tab. 1.6-3	11.7	"	24	8760	2.81	67.45	12.31	
SCENARIOS #1, #2 Natural Gas Boiler #1	PM	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	24	720	0.218	5.23	0.08	PM-10: assumed 100% of total PM
	CO	35.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	0.557	13.36	0.20	Load reduction coef= 1.0
	NOx	140.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	2.227	53.44	0.80	Small industrial, uncontrolled
	SOx	0.60	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	0.010	0.23	0.003	
	VOCs	5.80	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-3	52	% methane	24	720	0.04	1.06	0.02	Methane VOCs not inventoried
SCENARIO #3 Natural Gas Boiler #1	PM	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	24	8760	0.23	5.64	1.03	PM-10: assumed 100% of total PM
	CO	35.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	0.60	14.40	2.63	
	NOx	140.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	2.40	57.60	10.51	
	SOx	0.60	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	0.01	0.25	0.05	
	VOCs	5.80	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	52	% methane	24	8760	0.04	1.06	0.19	Methane VOCs not inventoried
SCENARIOS #1, #2 Natural Gas Boiler #2	PM	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	24	720	0.23	5.64	0.08	PM-10: assumed 100% of total PM
	CO	35.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	0.60	14.40	0.22	Load reduction coef= 1.0
	NOx	140.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	2.40	57.60	0.86	Small industrial, uncontrolled
	SOx	0.60	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	720	0.01	0.25	0.004	
	VOCs	5.80	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-3	52	% methane	24	720	0.04	1.06	0.02	Methane VOCs not inventoried
SCENARIO #3 Natural Gas Boiler #2	PM	13.700	lb PM/10 ⁶ cu ft	AP-42 Tab. 1.4-1	16.7	MM Btu/hr	24	8760	0.23	5.64	1.03	PM-10: assumed 100% of total PM
	CO	35.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	0.60	14.40	2.63	
	NOx	140.00	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	2.40	57.60	10.51	
	SOx	0.60	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	16.7	MM Btu/hr	24	8760	0.01	0.25	0.05	
	VOCs	5.80	lb/10 ⁶ cu ft	AP-42 Tab. 1.4-2	52	% methane	24	8760	0.04	1.06	0.19	Methane VOCs not inventoried
SCENARIOS #1, #2 Lumber Drying Kilns	PM	0.225	lb/1000 bd ft	L-P cite EPA draft	118.3	MM bd ft/yr	24	8760	3.04	72.92	13.31	1993 production level was 118.3 MM Bd ft
	VOCs	1.50	lb/1000 bd ft	L-P cite EPA draft	118.3	MM bd ft/yr	24	8760	20.26	486.16	88.73	The VOC and PM-10 emissions alterable upon new info
SCENARIO #3 Lumber Drying Kilns	PM	0.225	lb/1000 bd ft	L-P cite EPA draft	200.0	MM bd ft/yr	24	8760	5.14	123.29	22.50	1993 production level was 118.3 MM Bd ft
	VOCs	1.50	lb/1000 bd ft	L-P cite EPA draft	200.0	MM bd ft/yr	24	8760	34.25	821.82	150.00	The VOC and PM-10 emissions alterable upon new info

*1 All woodwaste combustion emission estimates utilizing an AP-42 emission factor are based upon:
4500 Btu/lb woodwaste (Section 122 typical woodwaste moisture and heat value); 1400 Btu/hr per lb steam/hr
*** This is subject to change based on reliable heat input values to establish a "typical" Btu content.

*2 Natural gas combustion: Each boiler is rated at 400 Boiler Horsepower.
AP-42 Appendix A-21: 1 BHP = 45,000 Btu/hr

1993 ACTUAL PM-10 EMISSIONS - FUGITIVE SOURCES

SOURCE DESCRIPTION	Pollutant	EMISSION FACTOR	FACTOR UNITS	EMISSION FACTOR SOURCE	RELEVANT DATA	DATA UNITS	# HOURS Operation PER DAY	CONTROL Efficiency (%)	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
Woodwaste Boiler Ash Handling	PM/PM-10	2	lb / ton	AP-42 T. 10.4-2	805.2	tons ash/yr	20	50	0.1103	2.206	0.40	L-P estimate of amount handled E.F. reduced by 50% H2O control
Truck loading operator	PM	2	lb PM/ton *1	AP-42 T. 10.4-2	21950.4	tons shav/yr	20	50	3.01	60.14	10.98	2-sided enclosure
Woodwaste loadout	PM-10	2	lb PM/ton	AP-42 T. 10.4-2	40	% of PM	20	0	1.80	36.06	6.59	PM-10 40% of PM
	PM	0.1	lb PM/b.d. ton *3	Oregon DEQ	21950.4	tons shav/yr	20	0	0.26	5.11	0.93	Assumed no control measures; 15% H2O content
Truck Bin Vent *3	PM-10	0.1	lb PM/b.d. ton *3	Oregon DEQ	40	% of PM	20	0	0.15	3.07	0.56	PM-10 40% of PM
End Coating Paint Fugitives	PM/PM-10	Material Balance	*2	L-P Engrg Judgement	20	% overspray	20	80	0.25	4.95	0.90	20% overspray --> transfer eff. is 80% capture eff. = 80%
	VOCs	Mat. Balance	*2				20		0.06	1.24	0.23	

*1 During 1993 operation the truck bin loadout had two side walls (given 50% control for 1993 actual)

The 1999 operating permit analysis contained an estimate of roughly 12 lb/hr of TSP (PM-10 is 10% of this #). This emission rate did not pass the modeling exercise. The resulting assumption was that the 12 lb/hr was too high, and 10% of this value was then used. So PM-10 emissions were set at 1% of the original TSP estimate.

*2 Material Balance: From L-P's public comment: end coating density = 8.257 lb/gal
15 gallons applied per day

For VOC emissions, assume 100% of solvents within paint are lost.

MSDS--paint is less than 1% volatiles by weight

*** C. Trueblood Section 122 Response included an MSDS for end coating paint with 0.0% volatiles content.

*3 Previously unaccounted for. The storage bin should have a vent that would allow the air flow from the closed cut shop hog and the planer cyclone's dropout stream. The "wood waste storage bin loadout" emission factor does not take venting into account. Assuming no additional control efficiency for the venting. The 0.1 lb PM per bone dry ton (Oregon DEQ wood products emission factor, 11/91) for a target box. The moisture content of the shavings, sawdust is assumed at 15%.

Note: In 1993 the hog fuel conveyor was enclosed. It was not identified as a source in the 1990 inventory, and now can be ruled out as a potential PM-10 source (as per Section 122 Request).

1993 ALLOWABLE PM-10 EMISSIONS – FUGITIVE SOURCES

Based upon permit application hours and throughputs

SOURCE DESCRIPTION	Pollutant	EMISSION FACTOR	FACTOR UNITS	EMISSION FACTOR SOURCE	RELEVANT DATA	DATA UNITS	# HOURS Operation PER DAY	CONTROL Efficiency (%)	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
Woodwaste Boiler Ash Handling	PM/PM-10	2	lb / ton	AP-42 T. 10.4-2	865.2	tons ash/yr	16	50	0.1376	2.2060	0.40	L-P estimate of amount handled E.F. reduced by 50% H2O control
Truck loading operator	PM	2	lb PM/ton *1	AP-42 T. 10.4-2	6	tons shav/yr	16	0	12.00	192.00	24.96	No fugitive control; Not actually "allowable rate"
Woodwaste loadout	PM-10	2	lb PM/ton	AP-42 T. 10.4-2	40	% of PM			4.80	76.80	9.08	PM-10 40% of PM; 260 days/yr operation
	PM	0.1	lb PM/b.d. ton *3	Oregon DEQ	6	tons /hour	16	0	0.80	9.60	1.25	Assumed no control measures; 15% H2O content
Truck Bin Vent *3	PM-10	0.1	lb PM/b.d. ton *3	Oregon DEQ	40	% of PM	16	0	0.24	3.84	0.50	PM-10 40% of PM
End Coating Paint Fugitives	PM/PM-10	Material Balance	*2	L-P Engrs Judgement	20	% overspray	16	80	0.31	4.95	0.80	20% overspray --> transfer eff. is 80%. capture eff. = 80%
	VOCs	Mat. Balance	*2		15	gallons/day	16		0.08	1.24	0.23	

1996 ALLOWABLE PM-10 EMISSIONS – FUGITIVE SOURCES

SOURCE DESCRIPTION	Pollutant	EMISSION FACTOR	FACTOR UNITS	EMISSION FACTOR SOURCE	RELEVANT DATA	DATA UNITS	# HOURS Operation PER DAY	CONTROL Efficiency (%)	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
Woodwaste Boiler Ash Handling	PM/PM-10	2	lb / ton	AP-42 T. 10.4-2	1,361	tons ash/yr	24	50	0.1554	3.730	0.68	L-P estimate of amount handled E.F. reduced by 50% H2O control
Truck loading operator	PM	2	lb PM/ton *1	AP-42 T. 10.4-2	37,149	tons shav/yr	24	90	0.85	20.36	3.71	3 sided enclosure w/flexible curtain on 4th side
Woodwaste loadout	PM-10	2	lb PM/ton	AP-42 T. 10.4-2	40	% of PM	24	0	0.51	12.21	2.23	control eff. taken into account for PM
	PM	0.1	lb PM/b.d. ton *3	Oregon DEQ	37,149	tons shav/yr	24	0	0.36	8.65	1.58	Assumed no control measures; 15% H2O content
Truck Bin Vent *3	PM-10	0.1	lb PM/b.d. ton *3	Oregon DEQ	40	% of PM	24	0	0.14	3.46	0.83	PM-10 40% of PM
End Coating Paint Fugitives	PM/PM-10	Material Balance	*2	L-P Engrs Judgement	20	% overspray	24	94	0.10	2.51	0.46	L-P has proposed to Completely enclose the process area
	VOCs	Mat. Balance	*2		15	gallons/day	24		0.05	1.24	0.23	

PLANT ROAD FUGITIVE EMISSIONS:

UNPAVED ROADS — AP-42 Section 11.2.1

Note: These estimates are based on what L-P claimed was their material throughputs
L-P claimed a total of 722 miles of travel on unpaved roads (all heavy equipment)

$$E = k (5.9) (s/12) (S/30) (W/3)^{-0.7} (w/4)^{-0.5} ((365-p)/365)$$

UNPAVED ROAD AP-42 EQUATION PARAMETERS:

E = Emission Factor (lb/MT)

k = Particle size multiplier = 0.35 (PM-10); 1.0 (TSP)

s = unpaved road silt content = 28.5% (Rural dirt, Tab. 11.2.1-1)

S = Mean vehicle speed = 5 mph (speed listed here in previous inventory drafts as 10 mph) although 5 mph was used in the calculation

w = Mean # of wheels on vehicle = 18 (conservative number)

W = Mean vehicle weight = 28.5 (L-P estimate)

p = number of days with precipitation > 0.01 inch = 120 (AP-42 Fig. 11.2.1-1)

***Additional Control measure (chemical dust suppressant) = 75% effective

1993 Actual and 1993 Allowables (1995 Allowables all surfaces paved)

SOURCE DESCRIP.	Pollutant	EMISSION FACTOR	UNITS	EMISS. FACTOR SOURCE	VMT per year	# HOURS Operation PER DAY	HOURLY EMISSION (lb/hr)	DAILY EMISSIONS (lb/day)	ANNUAL EMISSIONS (Tons/yr)	COMMENTS
Fugitive Emissions	PM	4.020	lb PM/MT	AP-42 S. 11.2.1	722	20	0.398	7.951	1.451	Assuming plant operation (vehicle
Unpaved Roads	PM-10	1.447	lb PM-10/MT	& Assumptions	722	20	0.143	2.862	0.522	during normal planer mill operation)

NO UNPAVED ROAD/AREA TRAVEL FOR 1996

The 1996 paved road emissions are based on material balance and payloads.

PLANT ROAD FUGITIVE EMISSIONS (NEW METHOD)

AP-42 SECTION 13.2.4 (Revised method of Road Fugitives Calculation (3/93 AP-42 update final as of July 1994)

$$E = k * (sL/2)^{0.65} * (W/3)^{1.5} \quad \text{units: [lb/VMT]}$$

k = Aerodynamic particle size multiplier = 0.082 for PM; 0.016 for PM-10 [lb/VMT]

sL = Road surface silt loading = 9.7 g/m² (Mean value for Iron and Steel Production)

W = Average vehicle weight (tons)

Green Lumber haul-in, = 105,000 lb loaded, 30,000 lb empty

Mean vehicle weight = 67,500 lb = 33.75 tons

Woodwaste transport = 33 tons/load (Aug 15, 1994 public comment)

Hogged fuel haul-in, finished lumber haul out, empty trucks = 27 tons payload, 15 tons empty

Mean vehicle weight = 28.5 tons

*** Additional control efficiency of 40% control given due to regular use of a street sweeper

1993 Actual & 1993 Allowables

PAVED ROADS FUGITIVES PLANT/VEHICLE	Pollutant	k (lb/VMT)	Silt Content (gm/m ²)	Average Weight (tons)	EMISSION FACTOR	UNITS	EMISSION FACTOR SOURCE	VMT/yr	CONTROL Efficiency (%)	# HOURS Operation PER DAY	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)
Green Lumber	PM	0.082	9.7	33.75	8.635	lb / VMT	New AP-42	1366	40	20	0.970	19.397	3.540
Haul trucks	PM-10	0.016	9.7	33.75	1.685	lb / VMT	New AP-42	1366	40	20	0.189	3.785	0.6
Woodwaste Haul	PM	0.082	9.7	33	8.349	lb / VMT	New AP-42	248	40	20	0.170	3.398	0.6
Trucks	PM-10	0.016	9.7	33	1.629	lb / VMT	New AP-42	248	40	20	0.033	0.663	0.121
Hogged fuel	PM	0.082	9.7	28.5	6.701	lb / VMT	New AP-42	307	40	20	0.169	3.378	0.616
Haul trucks	PM-10	0.016	9.7	28.5	1.307	lb / VMT	New AP-42	307	40	20	0.033	0.656	0.120
Finished lumber	PM	0.082	9.7	28.5	6.701	lb / VMT	New AP-42	1041	40	20	0.573	11.462	2.092
Haul Trucks	PM-10	0.016	9.7	28.5	1.307	lb / VMT	New AP-42	1041	40	20	0.112	2.237	0.408
Plant cars	PM	0.082	9.7	2	0.125	lb / VMT	New AP-42	3900	40	20	0.040	0.799	0.146
	PM-10	0.016	9.7	2	0.024	lb / VMT	New AP-42	3900	40	20	0.006	0.156	0.028
PM Subtotal:											1.179	23.573	4.302
PM-10 Subtotal:											0.230	4.600	0.839

Annual VMT based on annual material transport tonnage and payload capacity (as listed in the material balance section above and information provided by L-P).

where: Annual VMT = (Annual tonnage transported) / (Payload) * Round trip mileage

Annual Emissions = Emission factor [lb/VMT] * VMT/year

1996 Allowable @ 200 MM Bd ft/yr

PAVED ROADS FUGITIVES PLANT/VEHICLE	Pollutant	k (lb/VMT)	Silt Content (gm/m ²)	Vehicle Average Weight (tons)	EMISSION FACTOR	UNITS	EMISSION FACTOR SOURCE	VMT/yr	CONTROL Efficiency (%)	# HOURS Operation PER DAY	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)
Green Lumber	PM	0.082	9.7	33.75	8.635	lb / VMT	New AP-42	2313	40	24	1.368	32.828	5.991
Haul trucks	PM-10	0.016	9.7	33.75	1.685	lb / VMT	New AP-42	2313	40	24	0.267	6.405	1.169
Woodwaste Haul	PM	0.082	9.7	33	8.349	lb / VMT	New AP-42	419	40	24	0.240	5.751	1.050
Trucks	PM-10	0.016	9.7	33	1.629	lb / VMT	New AP-42	419	40	24	0.047	1.122	0.205
Hogged fuel	PM	0.082	9.7	28.5	6.701	lb / VMT	New AP-42	918	40	24	0.421	10.115	1.8
Haul trucks	PM-10	0.016	9.7	28.5	1.307	lb / VMT	New AP-42	918	40	24	0.082	1.974	0.3
Finished lumber	PM	0.082	9.7	28.5	6.701	lb / VMT	New AP-42	1761	40	20	0.970	19.399	3.540
Haul Trucks	PM-10	0.016	9.7	28.5	1.307	lb / VMT	New AP-42	1761	40	20	0.189	3.785	0.691
Plant cars	PM	0.082	9.7	2	0.125	lb / VMT	New AP-42	3900	40	24	0.033	0.799	0.146
	PM-10	0.016	9.7	2	0.024	lb / VMT	New AP-42	3900	40	24	0.006	0.156	0.028
PM Subtotal:											1.823	43.741	7.983
PM-10 Subtotal:											0.356	8.535	1.556

FACILITY-WIDE FUGITIVE PM-10 EMISSIONS SUMMARY

Actual 1993

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)
Woodwaste Boiler			
Ash Handling	0.1103	2.208	0.40
Truck loadout bin	1.80	36.08	6.59
Truck Bin Vent	0.15	3.07	0.56
End Coating Painting	0.25	4.95	0.90
Unpaved Roads	0.14	2.86	0.52
Paved Roads	0.23	4.60	0.84
	2.69	53.77	9.81

FACILITY-WIDE FUGITIVE PM-10 EMISSIONS SUMMARY

1996 Allowable

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)
Woodwaste Boiler			
Ash Handling	0.1554	3.730	0.68
Truck loadout bin	0.51	12.21	2.23
Truck Bin Vent	0.14	3.46	0.63
End Coating Painting	0.10	2.51	0.46
Unpaved Roads	--	--	--
Paved Roads	0.36	8.53	1.56
PM-10 Subtotal:	1.27	30.45	5.56

FACILITY-WIDE Point and Fugitive PM-10 EMISSIONS SUMMARY (Allowable 1993 EMISSIONS)

DO NOT USE THE 1993 ALLOWABLE TABLE FOR ANY MODELING!

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)
POINT SOURCES:			
Kipper & Sons Woodwaste Boiler	5.06	121.44	18.28
Woodwaste Boiler EFB Baghouse	0.21	5.14	0.77
Natural Gas Boiler #1	0.22	5.23	0.08
Natural Gas Boiler #2	0.22	5.23	0.08
Truck Bin Baghouse	1.24	19.82	2.58
Cyclone (Transfer)	1.03	16.46	2.14
Cyclone (Trim Saw)	0.51	8.23	1.07
Lumber Drying Kilns	3.04	72.92	13.31
FUGITIVE SOURCES:			
Woodwaste Boiler Ash Handling	0.11	2.21	0.40
Truck loadout bin	1.80	36.08	6.59
Truck Bin Vent	0.15	3.07	0.56
End Coating Painting	0.25	4.95	0.90
Unpaved Roads	0.14	2.86	0.52
Paved Roads	0.23	4.60	0.84
Totals:	14.22	306.24	48.12

FACILITY-WIDE Point and Fugitive PM-10 EMISSIONS SUMMARY (ACTUAL 1993 EMISSIONS)

20 Hours/day MON-FRI, 10 hours/day SAT & SUN, 52 weeks/yr

120 hours/wk
6240 hours/year

This certified information is from C. Trueblood, Atty for L-P in response to the Section 122 request

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)	Modeling Ems. Rate (gm/sec)
POINT SOURCES:				
Kipper & Sons Woodwaste Boiler	5.08	121.44	22.16	0.638
Woodwaste Boiler EFB Baghouse	0.21	5.14	0.94	0.027
Natural Gas Boiler #1	0.22	5.23	0.08	0.027
Natural Gas Boiler #2	0.22	5.23	0.08	0.027
Truck Bin Baghouse	1.24	29.73	3.88	0.156
Transfer Cyclone	1.03	24.69	3.21	0.130
Trim Saw Cyclone	0.51	12.34	1.80	0.065
Lumber Drying Kilns	3.04	72.92	13.31	0.383
FUGITIVE SOURCES:				
Woodwaste Boiler Ash Handling	0.1103	2.206	0.40	0.01361
Truck loadout bin	1.80	36.08	6.59	0.228
Truck Bin Vent	0.15	3.07	0.56	0.019
End Coating Painting	0.25	4.95	0.90	0.031
Unpaved Roads	0.14	2.86	0.52	0.018
Paved Roads	0.23	4.60	0.84	0.029
Totals:	14.22	330.46	55.08	

FACILITY-WIDE Point and Fugitive PM-10 EMISSIONS SUMMARY (1996 ALLOWABLE EMISSIONS)

SOURCE DESCRIPTION	HOURLY EMISSION (lb/hr)	DAILY EMISSION (lb/day)	ANNUAL EMISSION (Tons/yr)	Modeling Ems. Rate (gm/sec)
POINT SOURCES:				
Kipper & Sons Woodwaste Boiler	6.09	146.26	26.69	0.769
Woodwaste Boiler EFB Baghouse	0.23	5.63	1.02	0.030
Natural Gas Boiler #1	0.22	5.23	0.95	0.027
Natural Gas Boiler #2	0.22	5.23	0.95	0.027
Truck Bin Baghouse	1.24	29.73	5.42	0.156
Transfer Cyclone	1.03	24.69	4.51	0.130
Trim Saw Cyclone	0.00	0.00	0.00	0.000
Lumber Drying Kilns	5.14	123.29	22.50	0.648
FUGITIVE SOURCES:				
Woodwaste Boiler Ash Handling	0.1554	3.730	0.68	0.01960
Truck Loadout Bin	0.51	12.21	2.23	0.064
Truck Bin Vent	0.14	3.46	0.63	0.018
End Coating Painting	0.10	2.51	0.46	0.013
Unpaved Roads	---	---	---	0.000
Paved Roads	0.36	8.53	1.56	0.045
Totals:	15.44	370.50	67.61	

* Natural gas boilers #1 & #2 will not run during woodwaste boiler operation

* This cyclone will be removed for 1996.

* No unpaved roads will exist in 1996.

Appendix B

**Louisiana-Pacific Corporation
Sandpoint Planer Mill**

Emission Limits and Throughput Tables

TABLE 1
Louisiana Pacific, Sandpoint Planing Mill
PM₁₀ Emission Limits^a - Hourly (lb/hr), and Annual^b (T/yr)

Source Description	Hourly PM ₁₀ ^c Emissions (lb/hr) before 7/1/96 ^d	Annual PM ₁₀ ^c Emissions (T/yr) before 7/1/96 ^d	Annual PM ₁₀ ^c Emissions (lb/hr) after 7/1/96 ^d	Annual PM ₁₀ ^c Emissions (T/yr) after 7/1/96 ^d
Kipper & Sons Woodwaste Boiler	6.1	26.7	6.1	26.7
EFB Baghouse Vent	0.23	1.02	0.23	1.02
Natural Gas Boiler #1	0.22	0.08	0.22	0.08
Natural Gas Boiler #2	0.22	0.08	0.22	0.08
Truck Bin Baghouse Vent	1.24	3.86	1.24	5.42
Transfer Cyclone	1.03	3.21	1.03	4.51
Trim Saw Cyclone	0.51	1.60	0.00	0.00
Lumber Drying Kilns (5 kiln rooms)	3.04	13.3	5.1	22.5
Woodwaste Boiler Ash Handling	0.11	0.40	0.16	0.68
Truck Bin Loadout Operation	1.80	6.59	0.51	2.23
Truck Bin Vent	0.15	0.56	0.14	0.63
End Coating Operation	0.25	0.90	0.10	0.46
Vehicle Traffic - Unpaved Areas	0.14	0.52	0.00	0.00
Vehicle Traffic - Paved Areas	0.23	0.84	0.36	1.56

- a As determined by a pollutant specific U.S. EPA reference method, or a Department approved alternative, or as determined by the Departments's emission estimation methods used in this permit analysis.
- b As determined by multiplying the actual or allowable (if actual is not available) pound per hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.
- c Includes condensables.
- d Or such earlier date as all required contingency measures have been completed.

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APPENDIX A

TABLE 2

Louisiana Pacific, Sandpoint Planing Mill

Emission Limits* - Hourly (lb/hr) and Annual* (T/yr)

Source Description	PM ₁₀		NO _x		CO		VOC		SO _x	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
1. Kipper & Sons Woodwaste Boiler	6.1	26.7	15.6	56.4	60.0	201.6	7.8	28.2	0.84	3.03
2. Natural Gas Boiler #1	0.23	0.08	2.4	0.86	0.60	0.22	0.04	0.02	0.01	0.004
3. Natural Gas Boiler #2	0.23	0.08	2.4	0.86	0.60	0.22	0.04	0.02	0.01	0.004

- a As determined by a pollutant specific U.S. EPA reference method, or a Department approved alternative, or as determined by the Departments's emission estimation methods used in this permit analysis.
- b As determined by multiplying the actual or allowable (if actual is not available) pound per hour emission rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates.
- c Includes condensables.

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APPENDIX B

Louisiana Pacific - Sandpoint Planing Mill

Maximum Throughput Values

Source Description	Material Handled	Maximum Units per Month before 7/1/96 ^a	Maximum Annual Units before 7/1/96 ^a	Maximum Units per Month after 7/1/96 ^a	Maximum Annual Units after 7/1/96 ^a
1. Kipper & Sons Woodwaste Boiler	Hogged Fuel		56,000 tons (as delivered)		56,000 tons (as delivered)
2. Finished Product Loadout	Finished Lumber	12 MMbd ft or 13,200 tons	143 MMbd ft or 158,000 tons	16.7 MMbd ft or 13,200 tons	200 MMbd ft or 190,200 tons
3. Truck Bin Loadout	Planer shavings, sawdust, and hogged trim ends	2,211 tons	26,540 tons	3,096 tons	37,150 tons

a Or such earlier date as all required contingency measures have been completed.

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EXPIRES:

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